

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

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

1.1 Product identifier

Trade name : **Ethanol from agricultural origin (80-100%). Undenatured.**

REACH Registration Number : 01-2119457610-43-0066 *Ryssen Alcools, FR-Loon Plage*
01-2119457610-43-0020 *CropEnergies Bioethanol, DE-Zeitz*
01-2119457610-43-0052 *Biowanze S.A., BE-Bruxelles*
01-2119457610-43-0036 *Saint Louis Sucre, FR-Paris*
01-2119457610-43-0056 *Ensus UK Ltd., UK-Yarm*

REACH Substance name : ethanol

CAS-No. : 64-17-5

EC-No. : 200-578-6

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

Use of the Sub-
stance/Mixture : See chapter Exposure scenario.
Foodstuff

Recommended restrictions
on use : See chapter Exposure scenario.

1.3 Details of the supplier of the safety data sheet

Company : Südzucker AG
Maximilianstraße 10
68165 Mannheim, DE

E-mail address : info-MSDS@suedzucker.de

Telephone : +496214210

Telefax : +49621421393

E-mail address of person
responsible for the SDS : CRDS EH&S Ochsenfurt (*info-msds@suedzucker.de*)

1.4 Emergency telephone number

: +496214210 (Mo-Fr: 8 a.m. - 3 p.m.)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

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

2.2 Label elements

Labelling (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

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P280 Wear protective gloves/ eye protection/ face protection.

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.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

2.3 Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : Ethanol, Ethyl alcohol, Spirit

Hazardous components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)
ethanol	64-17-5 200-578-6	80 - <= 100

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SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Take off all contaminated clothing immediately.
- If inhaled : Fresh air. If symptoms persist, call a physician.
- In case of skin contact : Wash off with plenty of water.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If easy to do, remove contact lens, if worn. If eye irritation persists, consult a specialist.
- If swallowed : Immediately give large quantities of water to drink. If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Under working conditions the principal route of entry for ethanol is through the respiratory tract. After absorption (or ingestion) of larger quantities, central nervous system damage such as nausea and vomiting, euphoria, dizziness, intoxication, narcosis and respiratory paralysis.
Eye irritation

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire-fighting : Combustible material. Vapours are heavier than air and may spread along floors. Forms explosive mixtures with air at ambient temperatures. Development of hazardous combustion gases or vapours possible in the event of fire.
Fire may cause evolution of: Carbon monoxide (CO) Carbon dioxide (CO₂)

5.3 Advice for firefighters

- Special protective equipment for firefighters : While present in the danger zone: Wear self-contained breathing apparatus and protective suit.
- Further information : Cool closed containers exposed to fire with water spray. Collect contaminated fire extinguishing water separately. This

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must not be discharged into drains. Pay attention to flashback.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Remove all sources of ignition. Do not breathe vapours or spray mist. Use personal protective equipment. Ensure adequate ventilation, especially in confined areas.

6.2 Environmental precautions

Environmental precautions : Prevent material from reaching sewage system, holes and cellars. Risk of explosion.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Dispose of recovered material according to the regulations. Ensure adequate ventilation.

6.4 Reference to other sections

Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes. Do not breathe vapours or spray mist. Ensure adequate ventilation.

Advice on protection against fire and explosion : Vapours may form explosive mixtures with air. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Use only explosion-proof equipment. Vapours are heavier than air and may spread along floors.

Hygiene measures : Remove contaminated clothing. Preventative skin protection by using barrier cream. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat and sources of ignition.

Advice on common storage : Store away from oxidizing agents.

Storage class (TRGS 510) : 3, Flammable Liquids

7.3 Specific end use(s)

Specific use(s) : This information is not available.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
ethanol	64-17-5	TMW	1.000 ppm 1.900 mg/m ³	Austria. Limit values regulation - Annex I: Substance list (MAK values)
		TLV 8 hr	1.000 ppm 1.907 mg/m ³	Belgium. Occupational exposure limit values
		TWA	1.000 mg/m ³	Czech Republic. Chemical agents at work - Appendix 2: OEL
		AGW	500 ppm 960 mg/m ³	Germany. TRGS 900 - Occupational exposure limit values.
		GV	1.000 ppm 1.900 mg/m ³	Denmark. Occupational Exposure Limits
<i>Further information</i>	<i>Guiding list of organic solvents.</i>			
		VLA-EC	1.000 ppm 1.910 mg/m ³	Spain. Environmental Limits for exposure to Chemical agents - OEL
		HTP-arvot 8h	1.000 ppm 1.900 mg/m ³	Finland. HTP Values - Concentrations Known to be Harmful
		VME	1.000 ppm 1.900 mg/m ³	France. Occupational Exposure Limits (INRS)
<i>Further information</i>	<i>Indicative exposure limits</i>			
		TWA	1.000 ppm 1.920 mg/m ³	UK. EH40 WEL - Workplace Exposure Limits
		OELV - 15 min (STEL)	1.000 ppm	Ireland. List of Chemical Agents and Occupational Exposure Limit Values - Schedule 1
		TLV-8hr	260 mg/m ³	Netherlands. Amendment of the Law on Labour conditions - OEL
		NDS	1.900 mg/m ³	Poland. Occupational exposure limits for airborne toxic substances
		VLE_CD	1.000 ppm	Portugal. Security and Health at the Workplace - OEL
		NGV	500 ppm 1.000 mg/m ³	Sweden. Occupational Exposure Limit Values

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
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ethanol	Workers	Inhalation	Acute local effects	1900 mg/m ³ 1000 ppm
	Workers	Inhalation	Long-term systemic effects	950 mg/m ³ 500 ppm
	Workers	Skin contact	Long-term systemic effects	343 mg/kgbw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
ethanol	Fresh water	0,96 mg/l
	Marine water	0,79 mg/l
	Sewage treatment plant	580 mg/l
	Fresh water sediment	3,6 mg/kg dw
	Marine sediment	2,9 mg/kg dw
	Soil	0,63 mg/kg dw

8.2 Exposure controls

Personal protective equipment

Eye protection : Safety glasses with side-shields

Hand protection : Protective gloves

Material: butyl-rubber
Break through time: > 480 min
Glove thickness: 0,7 mm

The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other.
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Flame retardant antistatic protective clothing.

Respiratory protection : Required when vapors/aerosols are generated.
Breathing apparatus with filter.

Filter type: Organic vapour type (A)

Protective measures : Avoid contact with the skin and the eyes.
Do not breathe vapours or spray mist.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	: liquid
Colour	: colourless
Odour	: alcohol-like
Odour Threshold	: No data available
pH	: ca. 7,0 Concentration: 10 g/l (20 °C)
Melting point/range	: ca. -114 °C
Boiling point/boiling range	: ca. 78 °C
Flash point	: ca. 15,0 - 20,0 °C
Upper explosion limit	: 19 %(V)
Lower explosion limit	: 3,4 %(V)
Vapour pressure	: ca. 59 hPa (20 °C)
Density	: ca. 0,806 g/cm ³ (0 °C) ca. 0,789 g/cm ³ (20 °C) ca. 0,772 g/cm ³ (40 °C)
Water solubility	: completely miscible (20 °C)
Partition coefficient: n-octanol/water	: log Pow: ca. -0,32
Ignition temperature	: 363 - 425 °C
Viscosity, dynamic	: ca. 1,2 mPa.s (20 °C)
Viscosity, kinematic	: No data available
Explosive properties	: The product itself has no explosion risk, but there is a possible risk of formation of explosive dust/air mixtures.

9.2 Other information

Molecular weight	: 46,07 g/mol
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SECTION 10: Stability and reactivity

10.1 Reactivity

Vapours may form explosive mixture with air.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Reacts violently with strong oxidising agents.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents, Alkali metals, Alkaline earth metals, Strong acids and strong bases, Metals, Peroxides, metal salts, halogens, combustible materials, Incompatible materials, various plastics, rubber,

10.6 Hazardous decomposition products

Thermal decomposition : Carbon dioxide (CO₂)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Components:

ethanol:

Acute oral toxicity : LD50 (Rat): 10.470 mg/kg
Method: OECD Test Guideline 401
Symptoms: Nausea, Vomiting

Acute inhalation toxicity : LC50 (Rat): > 124,7 mg/l / 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Symptoms: Risk of absorption., slight mucosal irritations

Acute dermal toxicity : LD50 (Rabbit): No data available

Skin corrosion/irritation

Components:

ethanol:

Species: Rabbit
Method: OECD Test Guideline 404

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Result: No skin irritation
Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Serious eye damage/eye irritation

Components:

ethanol:

Method: OECD Test Guideline 405
Result: Mild eye irritation

Respiratory or skin sensitisation

Components:

ethanol:

Method: IUCLID
Result: No sensitizing effects known.

Germ cell mutagenicity

Product:

Germ cell mutagenicity- Assessment : Contains no ingredient listed as a mutagen

Carcinogenicity

Product:

Carcinogenicity : Contains no ingredient listed as a carcinogen

Reproductive toxicity

Product:

Reproductive toxicity : Contains no ingredient listed as toxic to reproduction

STOT - single exposure

Components:

ethanol:

The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Components:

ethanol:

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration toxicity

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No aspiration toxicity classification

Further information

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

Components:

ethanol:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 8.140 mg/l / 48 h Method: IUCLID
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 9.268 - 14.221 mg/l / 48 h Method: IUCLID
Toxicity to algae	:	EC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l / 72 h Method: OECD Test Guideline 201
Toxicity to bacteria	:	EC5 (Pseudomonas putida): 6.500 mg/l / 16 h Method: IUCLID
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 9,6 mg/l Exposure time: 10 d Species: Daphnia magna (Water flea)

12.2 Persistence and degradability

Components:

ethanol:

Biodegradability	:	Readily biodegradable. Biodegradation: 94 % Method: OECD Test Guideline 301E
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12.3 Bioaccumulative potential

Components:

ethanol:

Bioaccumulation	:	Bioconcentration factor (BCF): 0,66 Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.
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12.4 Mobility in soil

Product:

Mobility	:	No data available
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12.5 Results of PBT and vPvB assessment

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This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

12.6 Other adverse effects

Additional ecological information

With controlled addition of low concentrations into adapted biological water treatment plants, damage to the degradation capacity of activated sludge is not expected.

Ecological injuries are not known or expected under normal use.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Do not let product enter drains.
Must not be disposed of together with household garbage.
Dispose of in accordance with local regulations.

Waste Code : The assignment of waste codes has to be made according the European Waste Catalogue (EWC) and is sector and process specific (source dependent).
Please contact the local waste disposal company or the supplier/producer.

SECTION 14: Transport information

14.1 UN number

ADN : UN 1170

ADR : UN 1170

IMDG : UN 1170

IATA (Cargo) : UN 1170

14.2 UN proper shipping name

ADN : ETHANOL

ADR : ETHANOL

IMDG : ETHANOL

IATA (Cargo) : Ethanol

14.3 Transport hazard class(es)

ADN : 3

ADR : 3

IMDG : 3

IATA (Cargo) : 3

14.4 Packing group

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ADN

Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3

ADR

Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3
Tunnel restriction code : (D/E)

IMDG

Packing group : II
Labels : 3
EmS Code : F-E, S-D

IATA (Cargo)

Packing instruction (cargo aircraft) : 364
Packing instruction (LQ) : Y341
Packing group : II
Labels : Flammable Liquids

14.5 Environmental hazards

ADN

Environmentally hazardous : no

ADR

Environmentally hazardous : no

IMDG

Marine pollutant : no

14.6 Special precautions for user

Not applicable

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - List of substances subject to authorisation (Annex XIV) : Not listed

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not listed

Major Accident Hazard Legislation : *Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.*
yes (Number: 34)

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Water contaminating class (Germany)	:	WGK 1 slightly water endangering <i>Code Number: 96</i> VwVwS
Occupational Illnesses (R-461-3, France)	:	Health effects caused by professional use of liquid organic solvents (indicated in the table). (84)
Other regulations	:	(D) BG-Datasheet: M 017 "Solvents" (D) BG-Datasheet: M 051 "Hazardous chemical substances" Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Training advice : Provide adequate information, instruction and training for operators.

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.

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Annex

Exposure Scenario

ES #	Title	SU Code	PROC Code	PC Code	ERC Code
ES1	<i>Manufacture of substance</i>	Industrial use (SU 3)	PROC1 PROC2 PROC3 PROC8a PROC8b PROC15		ERC1
ES2	<i>Use as an intermediate</i>	Industrial use (SU 3)	PROC1 PROC2 PROC3 PROC4 PROC8a PROC8b PROC15		ERC6a
ES3	<i>Use as a process chemical or extraction solvent</i>	Industrial use (SU 3)	PROC1 PROC2 PROC3 PROC4 PROC8a PROC8b PROC15		ERC4
ES4	<i>Distribution of substance</i>	Industrial use (SU 3)	PROC1 PROC2 PROC3 PROC4 PROC5 PROC8a PROC8b PROC9 PROC15		ERC2
ES5	<i>Formulation & (re)packing of substances and mixtures</i>	Industrial use (SU 3)	PROC1 PROC2 PROC3 PROC4 PROC5 PROC8a PROC8b PROC9 PROC15		ERC2
ES6	<i>Use as a solvent.</i>	Industrial use (SU 3)	PROC1 PROC2 PROC3 PROC4 PROC5 PROC7 PROC8a PROC8b PROC10 PROC13 PROC15		ERC4
ES7	<i>Use as a fuel</i>	Industrial use	PROC1		ERC7

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		(SU 3)	PROC2 PROC3 PROC8a PROC8b PROC15 PROC16		
ES8	<i>Use as a solvent.</i>	Professional uses (SU22)	PROC1 PROC2 PROC4 PROC5 PROC8a PROC8b PROC10 PROC11 PROC13 PROC19		ERC8a ERC8d
ES9	<i>Use as a fuel</i>	Professional uses (SU22)	PROC1 PROC2 PROC3 PROC8a PROC8b PROC16		ERC9a ERC9b
ES10	<i>Use in functional fluids</i>	Industrial use (SU 3)	PROC1 PROC2 PROC8a PROC8b		ERC7
ES11	<i>Use in functional fluids</i>	Professional uses (SU22)	PROC1 PROC2 PROC8a PROC20		ERC9a ERC9b
ES12	<i>Use in laboratories</i>	Professional uses (SU22)	PROC10 PROC15		ERC8a
ES13	<i>Use as a fuel (automotive)</i>	Consumer uses (SU21)		PC13	ERC9b
ES14	<i>Use as a fuel (non-automotive)</i>	Consumer uses (SU21)		PC13	ERC9a ERC8b
ES15	<i>Use in products containing small quantities of substance (<50g)</i>	Consumer uses (SU21)		PC1 PC3 PC8 PC18 PC23 PC24 PC27 PC31 PC34	ERC8a ERC8d
ES16	<i>Use in functional fluids</i>	Consumer uses (SU21)		PC16	ERC9b
ES17	<i>Use in coatings</i>	Consumer uses (SU21)		PC9a PC9b PC9c	ERC8a ERC8d

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ES18	<i>Use in de-icing and anti-icing fluids. Use in screenwash products.</i>	Consumer uses (SU21)		PC4	ERC8d
ES19	<i>Use in cleaning agents</i>	Consumer uses (SU21)		PC35	ERC8a ERC8d
ES20	<i>Uses in cosmetics/personal care products, perfumes and fragrances</i>	Consumer uses (SU21)		PC28 PC39	ERC8a
ES21	<i>Disposal of wastes. Hazardous waste incineration.</i>	Industrial use (SU 3)	PROC1 PROC2 PROC3 PROC8b PROC15		ERC7
ES22	<i>Disposal of wastes. Approved landfill.</i>	Professional uses (SU22)	PROC1 PROC3 PROC4 PROC8a		ERC8d
ES23	<i>Disposal of wastes. redistillation.</i>	Industrial use (SU 3)	PROC1 PROC2 PROC3 PROC8b PROC15		ERC1

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ES1: Manufacture of substance - Industrial

Substance:	ethanol , CAS-No. 64-17-5
Main User Groups:	SU 3: Industrial use
Environmental Release Categories:	ERC1: Manufacture of substances
Process categories:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent

2.1. Contributing scenario controlling environmental exposure for: ERC1

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 200000 ton(s)/year
Release type	: Continuous process
Number of emission days per year	: 350

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Onsite sewage treatment plant
Effectiveness (of a measure)	: ≥ 87 %
STP effluent	: 2.000 m ³ /d

Conditions and measures related to external recovery of waste

Note	: Not applicable
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2.2. Contributing scenario controlling worker exposure for: PROC1 / PROC2 / PROC3 / PROC8a / PROC8b / PROC15

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Application duration	: Covers daily exposures up to 8 hours (unless stated differently).
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Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Other conditions affecting workers exposure

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Indoor or outdoor use : Indoor

Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Handle substance within a closed system.
Keep container tightly closed.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC1: Manufacture of substances

Compartment	Level of Exposure	RCR	Method
Fresh water	0,0646 mg/l	0,07	ECETOC TRA
Marine water	0,00714 mg/l	< 0,01	
Soil	0,0103 mg/kg dw	0,06	

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC1: Use in closed process, no likelihood of exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	< 0,001	ECETOC TRA

Worker exposure:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,014	ECETOC TRA

Worker exposure:

PROC3: Use in closed batch process (synthesis or formulation)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,022	ECETOC TRA

Worker exposure:

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,141	ECETOC TRA

Worker exposure:

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

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PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,090	ECETOC TRA

Worker exposure:

PROC15: Use as laboratory reagent

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,021	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES2: Use as an intermediate - Industrial

Substance:	ethanol , CAS-No. 64-17-5
Main User Groups:	SU 3: Industrial use
Environmental Release Categories:	ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)
Process categories:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent

2.1. Contributing scenario controlling environmental exposure for: ERC6a

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 12500 ton(s)/year
Release type	: Continuous process
Number of emission days per year	: 300

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Onsite sewage treatment plant
Effectiveness (of a measure)	: $\geq 87\%$
STP effluent	: 2.000 m ³ /d

Conditions and measures related to external recovery of waste

Note	: Not applicable
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2.2. Contributing scenario controlling worker exposure for: PROC1 / PROC2 / PROC3 / PROC4 / PROC8a / PROC8b / PROC15

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Application duration	: Covers daily exposures up to 8 hours (unless stated differently).
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Conditions and measures related to personal protection, hygiene and health evaluation

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

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Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor

Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Handle substance within a closed system.

Keep container tightly closed.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

Compartment	Level of Exposure	RCR	Method
Fresh water	0,592 mg/l	0,62	ECETOC TRA
Marine water	0,0652 mg/l	0,08	
Soil	0,00405 mg/kg dw	0,02	

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC1: Use in closed process, no likelihood of exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	< 0,001	ECETOC TRA

Worker exposure:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,014	ECETOC TRA

Worker exposure:

PROC3: Use in closed batch process (synthesis or formulation)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,022	ECETOC TRA

Worker exposure:

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,060	ECETOC TRA

Worker exposure:

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

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PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,141	ECETOC TRA

Worker exposure:

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,090	ECETOC TRA

Worker exposure:

PROC15: Use as laboratory reagent

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,021	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES3: Use as a process chemical or extraction solvent - Industrial

Substance:	ethanol, CAS-No. 64-17-5
Main User Groups:	SU 3: Industrial use
Environmental Release Categories:	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
Process categories:	<p>PROC1: Use in closed process, no likelihood of exposure</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Use in closed batch process (synthesis or formulation)</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC15: Use as laboratory reagent</p>

2.1. Contributing scenario controlling environmental exposure for: ERC4

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 12500 ton(s)/year
Release type	: Continuous process
Number of emission days per year	: 300

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Onsite sewage treatment plant
Effectiveness (of a measure)	: $\geq 87\%$
STP effluent	: 2.000 m ³ /d

Conditions and measures related to external recovery of waste

Waste treatment	: redestillation
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2.2. Contributing scenario controlling worker exposure for: PROC1 / PROC2 / PROC3 / PROC4 / PROC8a / PROC8b / PROC15

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Application duration	: Covers daily exposures up to 8 hours (unless stated differently).
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Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor

Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Handle substance within a closed system.

Keep container tightly closed.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Compartment	Level of Exposure	RCR	Method
Fresh water	0,592 mg/l	0,62	ECETOC TRA
Marine water	0,0652 mg/l	0,08	
Soil	0,00405 mg/kg dw	0,02	

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC1: Use in closed process, no likelihood of exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	< 0,001	ECETOC TRA

Worker exposure:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,014	ECETOC TRA

Worker exposure:

PROC3: Use in closed batch process (synthesis or formulation)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,022	ECETOC TRA

Worker exposure:

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,060	ECETOC TRA

Worker exposure:

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,141	ECETOC TRA

Worker exposure:

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,090	ECETOC TRA

Worker exposure:

PROC15: Use as laboratory reagent

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,021	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES4: Distribution of substance - Industrial

Substance:	ethanol , CAS-No. 64-17-5
Main User Groups:	SU 3: Industrial use
Environmental Release Categories:	ERC2: Formulation of preparations
Process categories:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC15: Use as laboratory reagent

2.1. Contributing scenario controlling environmental exposure for: ERC2

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 175000 ton(s)/year
Number of emission days per year	: 200

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
Effectiveness (of a measure)	: $\geq 87\%$
STP effluent	: 2.000 m ³ /d

Conditions and measures related to external recovery of waste

Note : Not applicable

2.2. Contributing scenario controlling worker exposure for: PROC1 / PROC2 / PROC3 / PROC4 / PROC5 / PROC8a / PROC8b / PROC9 / PROC15

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Application duration	: Covers daily exposures up to 8 hours (unless stated differently).
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Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor

Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Handle substance within a closed system.
Keep container tightly closed.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC2: Formulation of preparations

Compartment	Level of Exposure	RCR	Method
Fresh water	0,00346 mg/l	< 0,01	ECETOC TRA
Marine water	0,000422 mg/l	< 0,01	
Soil	0,00124 mg/kg dw	< 0,01	

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC1: Use in closed process, no likelihood of exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	< 0,001	ECETOC TRA

Worker exposure:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,014	ECETOC TRA

Worker exposure:

PROC3: Use in closed batch process (synthesis or formulation)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,022	ECETOC TRA

Worker exposure:

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,060	ECETOC TRA

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Worker exposure:

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,141	ECETOC TRA

Worker exposure:

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,141	ECETOC TRA

Worker exposure:

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,090	ECETOC TRA

Worker exposure:

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,121	ECETOC TRA

Worker exposure:

PROC15: Use as laboratory reagent

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,021	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES5: Formulation & (re)packing of substances and mixtures - Industrial

Substance:	ethanol , CAS-No. 64-17-5
Main User Groups:	SU 3: Industrial use
Environmental Release Categories:	ERC2: Formulation of preparations
Process categories:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC15: Use as laboratory reagent

2.1. Contributing scenario controlling environmental exposure for: ERC2

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 175000 ton(s)/year
Number of emission days per year	: 300

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
	: No discharge of substance into waste water

Conditions and measures related to external recovery of waste

Note	: Not applicable
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2.2. Contributing scenario controlling worker exposure for: PROC1 / PROC2 / PROC3 / PROC4 / PROC5 / PROC8a / PROC8b / PROC9 / PROC15

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Application duration	: Covers daily exposures up to 8 hours (unless stated differently).
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Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor

Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Handle substance within a closed system.
Keep container tightly closed.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC2: Formulation of preparations

Compartment	Level of Exposure	RCR	Method
Fresh water	0,443 mg/l	0,46	ECETOC TRA
Marine water	0,0488 mg/l	0,06	
Soil	0,082 mg/kg dw	0,48	

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC1: Use in closed process, no likelihood of exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	< 0,001	ECETOC TRA

Worker exposure:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,014	ECETOC TRA

Worker exposure:

PROC3: Use in closed batch process (synthesis or formulation)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,022	ECETOC TRA

Worker exposure:

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,060	ECETOC TRA

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Worker exposure:

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,141	ECETOC TRA

Worker exposure:

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,141	ECETOC TRA

Worker exposure:

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,090	ECETOC TRA

Worker exposure:

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,121	ECETOC TRA

Worker exposure:

PROC15: Use as laboratory reagent

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,021	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES6: Use as a solvent. - Industrial

Substance:	ethanol , CAS-No. 64-17-5
Main User Groups:	SU 3: Industrial use
Environmental Release Categories:	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
Process categories:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC7: Industrial spraying PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC10: Roller application or brushing PROC13: Treatment of articles by dipping and pouring PROC15: Use as laboratory reagent

2.1. Contributing scenario controlling environmental exposure for: ERC4

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 6000 ton(s)/year
Release type	: Continuous process
Number of emission days per year	: 300

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
Effectiveness (of a measure)	: $\geq 87\%$
STP effluent	: 2.000 m ³ /d

Conditions and measures related to external recovery of waste

Note : Not applicable

2.2. Contributing scenario controlling worker exposure for: PROC1 / PROC2 / PROC3 / PROC4 / PROC5 / PROC7 / PROC8a / PROC8b / PROC10 / PROC13 / PROC15

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Amount used, frequency and duration of use (or from service life)

Application duration : Covers daily exposures up to 8 hours (unless stated differently).

Technical and organisational conditions and measures

Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
(PROC7)

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor

Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Handle substance within a closed system.
Keep container tightly closed.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Compartment	Level of Exposure	RCR	Method
Fresh water	0,474 mg/l	0,49	ECETOC TRA
Marine water	0,0522 mg/l	0,07	
Soil	0,0368 mg/kg dw	0,22	

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC1: Use in closed process, no likelihood of exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	< 0,001	ECETOC TRA

Worker exposure:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,014	ECETOC TRA

Worker exposure:

PROC3: Use in closed batch process (synthesis or formulation)

Exposure route	Exposure duration	RCR	Method
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Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

combined routes (inhalative, dermal)	Long term	0,022	ECETOC TRA
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Worker exposure:

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,060	ECETOC TRA

Worker exposure:

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,141	ECETOC TRA

Worker exposure:

PROC7: Industrial spraying

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,276	ECETOC TRA

Worker exposure:

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,141	ECETOC TRA

Worker exposure:

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,090	ECETOC TRA

Worker exposure:

PROC10: Roller application or brushing

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,181	ECETOC TRA

Worker exposure:

PROC13: Treatment of articles by dipping and pouring

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,141	ECETOC TRA

Worker exposure:

PROC15: Use as laboratory reagent



Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,021	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES7: Use as a fuel - Industrial

Substance:	ethanol, CAS-No. 64-17-5
Main User Groups:	SU 3: Industrial use
Environmental Release Categories:	ERC7: Industrial use of substances in closed systems
Process categories:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent PROC16: Using material as fuel sources, limited exposure to unburned product to be expected

2.1. Contributing scenario controlling environmental exposure for: ERC7

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 20000 ton(s)/year
Release type	: Continuous process
Number of emission days per year	: 300

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
Effectiveness (of a measure)	: $\geq 87\%$
STP effluent	: 2.000 m ³ /d

Conditions and measures related to external recovery of waste

Note	: Not applicable
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2.2. Contributing scenario controlling worker exposure for: PROC1 / PROC2 / PROC3 / PROC8a / PROC8b / PROC15 / PROC16

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Application duration	: Covers daily exposures up to 8 hours (unless stated differently).
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Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

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Other conditions affecting workers exposure

Indoor or outdoor use : Indoor

Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Handle substance within a closed system.

Keep container tightly closed.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC7: Industrial use of substances in closed systems

Compartment	Level of Exposure	RCR	Method
Fresh water	0,00582 mg/l	< 0,01	ECETOC TRA
Marine water	0,00304 mg/l	< 0,01	
Soil	0,00694 mg/kg dw	0,04	

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC1: Use in closed process, no likelihood of exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	< 0,001	ECETOC TRA

Worker exposure:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,014	ECETOC TRA

Worker exposure:

PROC3: Use in closed batch process (synthesis or formulation)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,022	ECETOC TRA

Worker exposure:

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,141	ECETOC TRA

Worker exposure:

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

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PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,090	ECETOC TRA

Worker exposure:

PROC15: Use as laboratory reagent

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,021	ECETOC TRA

Worker exposure:

PROC16: Using material as fuel sources, limited exposure to unburned product to be expected

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,011	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES8: Use as a solvent. - Professional

Substance:	ethanol , CAS-No. 64-17-5
Main User Groups:	SU22 : Professional uses
Environmental Release Categories:	ERC8a : Wide dispersive indoor use of processing aids in open systems ERC8d : Wide dispersive outdoor use of processing aids in open systems
Process categories:	PROC1 : Use in closed process, no likelihood of exposure PROC2 : Use in closed, continuous process with occasional controlled exposure PROC3 : Use in closed batch process (synthesis or formulation) PROC4 : Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 : Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC8a : Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b : Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC10 : Roller application or brushing PROC11 : Non industrial spraying PROC13 : Treatment of articles by dipping and pouring PROC19 : Hand-mixing with intimate contact and only PPE available

2.1. Contributing scenario controlling environmental exposure for: ERC8a / ERC8d

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 2000 ton(s)/year
Release type	: Continuous process
Number of emission days per year	: 365

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
Effectiveness (of a measure)	: 87,4 %
STP effluent	: 2.000 m3/d

Conditions and measures related to external recovery of waste

Note : Not applicable

2.2. Contributing scenario controlling worker exposure for: PROC1 / PROC2 / PROC3 / PROC4 / PROC5 / PROC8a / PROC8b / PROC10 / PROC11 / PROC13 / PROC19

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Amount used, frequency and duration of use (or from service life)

Application duration : Covers daily exposures up to 8 hours (unless stated differently).

Technical and organisational conditions and measures

Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

Wear suitable gloves tested to EN374.

(PROC11)

Wear a respirator conforming to EN140 with Type A filter or better.

(PROC11 - Outdoor)

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Wear suitable gloves tested to EN374. **(PROC11, PROC13, PROC19)**

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor or outdoor use

Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Keep container tightly closed.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC8a: Wide dispersive indoor use of processing aids in open systems

ERC8d: Wide dispersive outdoor use of processing aids in open systems

Compartment	Level of Exposure	RCR	Method
Fresh water	0,00238 mg/l	< 0,01	ECETOC TRA
Marine water	0,000303 mg/l	< 0,01	
Soil	0,00116 mg/kg dw	< 0,01	

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC1: Use in closed process, no likelihood of exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	< 0,001	ECETOC TRA

Worker exposure:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,044	ECETOC TRA

Worker exposure:

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

PROC3: Use in closed batch process (synthesis or formulation)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,052	ECETOC TRA

Worker exposure:

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,121	ECETOC TRA

Worker exposure:

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,242	ECETOC TRA

Worker exposure:

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,242	ECETOC TRA

Worker exposure:

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,141	ECETOC TRA

Worker exposure:

PROC10: Roller application or brushing

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,282	ECETOC TRA

Worker exposure:

PROC11: Non industrial spraying

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	$\leq 0,365$	ECETOC TRA

Worker exposure:

PROC13: Treatment of articles by dipping and pouring

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,210	ECETOC TRA

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Worker exposure:

PROC19: Hand-mixing with intimate contact and only PPE available

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,284	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES9: Use as a fuel - Professional

Substance:	ethanol, CAS-No. 64-17-5
Main User Groups:	SU22: Professional uses
Environmental Release Categories:	ERC9a: Wide dispersive indoor use of substances in closed systems ERC9b: Wide dispersive outdoor use of substances in closed systems
Process categories:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC16: Using material as fuel sources, limited exposure to unburned product to be expected

2.1. Contributing scenario controlling environmental exposure for: ERC9a / ERC9b

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 20000 ton(s)/year
Release type	: Continuous process
Number of emission days per year	: 365

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
Effectiveness (of a measure)	: 87,4 %
STP effluent	: 2.000 m3/d

Conditions and measures related to external recovery of waste

Note	: Not applicable
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2.2. Contributing scenario controlling worker exposure for: PROC1 / PROC2 / PROC3 / PROC8a / PROC8b / PROC16

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Application duration	: Covers daily exposures up to 8 hours (unless stated differently).
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Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor

Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Handle substance within a closed system.

Keep container tightly closed.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC9a: Wide dispersive indoor use of substances in closed systems

ERC9b: Wide dispersive outdoor use of substances in closed systems

Compartment	Level of Exposure	RCR	Method
Fresh water	No data available		
Marine water	No data available		
Soil	No data available		

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC1: Use in closed process, no likelihood of exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	< 0,001	ECETOC TRA

Worker exposure:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,044	ECETOC TRA

Worker exposure:

PROC3: Use in closed batch process (synthesis or formulation)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,052	ECETOC TRA

Worker exposure:

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,242	ECETOC TRA

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Worker exposure:

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,141	ECETOC TRA

Worker exposure:

PROC16: Using material as fuel sources, limited exposure to unburned product to be expected

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,021	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES10: Use in functional fluids - Industrial

Substance:	ethanol, CAS-No. 64-17-5
Main User Groups:	SU 3: Industrial use
Environmental Release Categories:	ERC7: Industrial use of substances in closed systems
Process categories:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

2.1. Contributing scenario controlling environmental exposure for: ERC7

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 1000 ton(s)/year
Release type	: Batch process
Number of emission days per year	: 20

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
Effectiveness (of a measure)	: $\geq 87\%$
STP effluent	: 2.000 m ³ /d

Conditions and measures related to external recovery of waste

Waste treatment	: redestillation
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2.2. Contributing scenario controlling worker exposure for: PROC1 / PROC2 / PROC8a / PROC8b

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Application duration	: Covers daily exposures up to 8 hours (unless stated differently).
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Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Other conditions affecting workers exposure

Indoor or outdoor use	: Indoor Assumes use at not more than 20°C above ambient temperature.
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Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Handle substance within a closed system.
Keep container tightly closed.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC7: Industrial use of substances in closed systems

Compartment	Level of Exposure	RCR	Method
Fresh water	0,00253 mg/l	< 0,01	ECETOC TRA
Marine water	0,000318 mg/l	< 0,01	
Soil	0,0018 mg/kg dw	0,01	

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC1: Use in closed process, no likelihood of exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	< 0,001	ECETOC TRA

Worker exposure:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,014	ECETOC TRA

Worker exposure:

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,141	ECETOC TRA

Worker exposure:

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,090	ECETOC TRA



Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES11: Use in functional fluids - Professional

Substance:	ethanol, CAS-No. 64-17-5
Main User Groups:	SU22: Professional uses
Environmental Release Categories:	ERC9a: Wide dispersive indoor use of substances in closed systems ERC9b: Wide dispersive outdoor use of substances in closed systems
Process categories:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems

2.1. Contributing scenario controlling environmental exposure for: ERC9a / ERC9b

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 1000 ton(s)/year
Release type	: Continuous process
Number of emission days per year	: 365

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
Effectiveness (of a measure)	: $\geq 87\%$
STP effluent	: 2.000 m ³ /d

Conditions and measures related to external recovery of waste

Waste treatment	: redestillation
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2.2. Contributing scenario controlling worker exposure for: PROC1 / PROC2 / PROC8a / PROC20

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Application duration	: Covers daily exposures up to 8 hours (unless stated differently).
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Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Other conditions affecting workers exposure

Indoor or outdoor use	: Indoor Assumes use at not more than 20°C above ambient temperature.
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Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Keep container tightly closed.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC9a: Wide dispersive indoor use of substances in closed systems

ERC9b: Wide dispersive outdoor use of substances in closed systems

Compartment	Level of Exposure	RCR	Method
Fresh water	0,00238 mg/l	< 0,01	ECETOC TRA
Marine water	0,000303 mg/l	< 0,01	
Soil	0,00116 mg/kg dw	< 0,01	

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC1: Use in closed process, no likelihood of exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	< 0,001	ECETOC TRA

Worker exposure:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,044	ECETOC TRA

Worker exposure:

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,242	ECETOC TRA

Worker exposure:

PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,045	ECETOC TRA



Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES12: Use in laboratories - Professional

Substance:	ethanol, CAS-No. 64-17-5
Main User Groups:	SU22: Professional uses
Environmental Release Categories:	ERC8a: Wide dispersive indoor use of processing aids in open systems
Process categories:	PROC10: Roller application or brushing PROC15: Use as laboratory reagent

2.1. Contributing scenario controlling environmental exposure for: ERC8a

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 200 ton(s)/year
Release type	: Continuous process
Number of emission days per year	: 365

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
Effectiveness (of a measure)	: $\geq 87\%$
STP effluent	: 2.000 m ³ /d

Conditions and measures related to external recovery of waste

Note	: Not applicable
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2.2. Contributing scenario controlling worker exposure for: PROC10 / PROC15

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Application duration	: Covers daily exposures up to 8 hours (unless stated differently).
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Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Other conditions affecting workers exposure

Indoor or outdoor use	: Indoor
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Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Keep container tightly closed.

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC8a: Wide dispersive indoor use of processing aids in open systems

Compartment	Level of Exposure	RCR	Method
Fresh water	0,004 mg/l	< 0,01	ECETOC TRA
Marine water	0,000305 mg/l	< 0,01	
Soil	0,00116 mg/kg dw	< 0,01	

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC10: Roller application or brushing

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,282	ECETOC TRA

Worker exposure:

PROC15: Use as laboratory reagent

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,021	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES13: Use as a fuel (automotive) - Consumer

Substance: **ethanol**, CAS-No. 64-17-5
Main User Groups: **SU21**: Consumer uses
Environmental Release Categories: **ERC9b**: Wide dispersive outdoor use of substances in closed systems
Product category: **PC13**: Fuels

2.1. Contributing scenario controlling environmental exposure for: ERC9b

Amount used, frequency and duration of use (or from service life)

Annual amount per site : 70000 ton(s)/year
Number of emission days per year : 365

Conditions and measures related to treatment of waste (including article waste)

Note : Not applicable

2.2. Contributing scenario controlling consumer exposure for: PC13

Product (article) characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 85 %.
Physical form of product : Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Exposure duration : <= 2 h
Use frequency/Times per year: : <= 51

Conditions and measures related to personal protection, hygiene and health evaluation

Avoid using indoors.

Other conditions affecting consumers exposure

Indoor or outdoor use :
Covers outdoor use.
Covers use at ambient temperatures.
Covers use in a one car garage (34 m³) under typical ventilation.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC9b: Wide dispersive outdoor use of substances in closed systems

Compartment	Level of Exposure	RCR	Method
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Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Fresh water	0,00236 mg/l	< 0,01	ECETOC TRA
Marine water	0,0003 mg/l	< 0,01	
Soil	0,00115 mg/kg dw	< 0,01	

Additional information on exposure estimation:

ECETOC TRA model used.

Consumer exposure:

PC13: Fuels

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)		<= 0,01	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

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ES14: Use as a fuel (non-automotive) - Consumer

Substance: **ethanol**, CAS-No. 64-17-5
Main User Groups: **SU21**: Consumer uses
Environmental Release Categories: **ERC9a**: Wide dispersive indoor use of substances in closed systems
ERC9b: Wide dispersive outdoor use of substances in closed systems
Product category: **PC13**: Fuels

2.1. Contributing scenario controlling environmental exposure for: ERC9a / ERC9b

Amount used, frequency and duration of use (or from service life)

Annual amount per site : 1000 ton(s)/year
Number of emission days per year : 365

Conditions and measures related to treatment of waste (including article waste)

Note : Not applicable

2.2. Contributing scenario controlling consumer exposure for: PC13

Product (article) characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product : Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Exposure duration : <= 0,03 h
Use frequency/Times per year: : <= 51

Other conditions affecting consumers exposure

Indoor or outdoor use :
Covers use in a one car garage (34 m³) under typical ventilation.
Covers use under typical household ventilation.
Covers use at ambient temperatures.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC9a: Wide dispersive indoor use of substances in closed systems
ERC9b: Wide dispersive outdoor use of substances in closed systems

Compartment	Level of Exposure	RCR	Method
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Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

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Fresh water	$\leq 0,00369$ mg/l	$< 0,01$	ECETOC TRA
Marine water	$\leq 0,000427$ mg/l	$< 0,01$	
Soil	$\leq 0,00115$ mg/kg dw	$< 0,01$	

Additional information on exposure estimation:

ECETOC TRA model used.

Consumer exposure:

PC13: Fuels

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)		$< 0,01$	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

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ES15: Use in products containing small quantities of substance (<50g) - Consumer

Substance:	ethanol , CAS-No. 64-17-5
Main User Groups:	SU21 : Consumer uses
Environmental Release Categories:	ERC8a : Wide dispersive indoor use of processing aids in open systems ERC8d : Wide dispersive outdoor use of processing aids in open systems
Product category:	PC1 : Adhesives, sealants PC3 : Air care products PC8 : Biocidal products (e.g. Disinfectants, pest control) PC18 : Ink and toners PC23 : Leather tanning, dye, finishing, impregnation and care products PC24 : Lubricants, greases, release products PC27 : Plant protection products PC31 : Polishes and wax blends PC34 : Textile dyes, finishing and impregnating products; including bleaches and other processing aids

2.1. Contributing scenario controlling environmental exposure for: ERC8a / ERC8d

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 1000 ton(s)/year
Number of emission days per year	: 365

Conditions and measures related to treatment of waste (including article waste)

Note	: Not applicable
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2.2. Contributing scenario controlling consumer exposure for: PC1 / PC3 / PC8 / PC18 / PC23 / PC24 / PC27 / PC31 / PC34

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 85 %.
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Exposure duration	: <= 8 h
Use frequency/uses per day	: <= 4

Other conditions affecting consumers exposure

Indoor or outdoor use	:	Covers use under typical household ventilation. Covers use at ambient temperatures.
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Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC8a: Wide dispersive indoor use of processing aids in open systems

ERC8d: Wide dispersive outdoor use of processing aids in open systems

Compartment	Level of Exposure	RCR	Method
Fresh water	0,0297 mg/l	0,03	ECETOC TRA
Marine water	0,00304 mg/l	0,04	
Soil	0,00115 mg/kg dw	< 0,01	

Additional information on exposure estimation:

ECETOC TRA model used.

Consumer exposure:

PC1: Adhesives, sealants

PC3: Air care products

PC8: Biocidal products (e.g. Disinfectants, pest control)

PC18: Ink and toners

PC23: Leather tanning, dye, finishing, impregnation and care products

PC24: Lubricants, greases, release products

PC27: Plant protection products

PC31: Polishes and wax blends

PC34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)		<= 0,989	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES16: Use in functional fluids - Consumer

Substance: **ethanol**, CAS-No. 64-17-5
Main User Groups: **SU21**: Consumer uses
Environmental Release Categories: **ERC9b**: Wide dispersive outdoor use of substances in closed systems
Product category: **PC16**: Heat transfer fluids

2.1. Contributing scenario controlling environmental exposure for: ERC9b

Amount used, frequency and duration of use (or from service life)

Annual amount per site : 1000 ton(s)/year
Number of emission days per year : 365

Conditions and measures related to treatment of waste (including article waste)

Waste treatment : redestillation

2.2. Contributing scenario controlling consumer exposure for: PC16

Product (article) characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product : Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Exposure duration : 0,17 h
Use frequency/Times per year: : 4

Conditions and measures related to personal protection, hygiene and health evaluation

Avoid using indoors.

Other conditions affecting consumers exposure

Indoor or outdoor use :
Covers outdoor use.
Covers use in a one car garage (34 m³) under typical ventilation.
Covers use at ambient temperatures.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC9b: Wide dispersive outdoor use of substances in closed systems

Compartment	Level of Exposure	RCR	Method
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Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Fresh water	0,00238 mg/l	< 0,01	ECETOC TRA
Marine water	0,000303 mg/l	< 0,01	
Soil	0,00115 mg/kg dw	< 0,01	

Additional information on exposure estimation:

ECETOC TRA model used.

Consumer exposure:

PC16: Heat transfer fluids

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)		<= 0,039	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES17: Use in coatings - Consumer

Substance:	ethanol, CAS-No. 64-17-5
Main User Groups:	SU21: Consumer uses
Environmental Release Categories:	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems
Product category:	PC9a: Coatings and paints, thinners, paint removers PC9b: Fillers, putties, plasters, modelling clay PC9c: Finger paints

2.1. Contributing scenario controlling environmental exposure for: ERC8a / ERC8d

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 1000 ton(s)/year
Number of emission days per year	: 365

Conditions and measures related to treatment of waste (including article waste)

Note	: Not applicable
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2.2. Contributing scenario controlling consumer exposure for: PC9a / PC9b / PC9c

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 25 %.
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Exposure duration	: <= 4 h
Use frequency/Times per year:	: <= 12

Conditions and measures related to personal protection, hygiene and health evaluation

Avoid using when windows closed.
Avoid using in room with closed doors.

Indoor or outdoor use	:	Covers use under typical household ventilation. Covers use in a one car garage (34 m ³) under typical ventilation. Covers use at ambient temperatures.
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3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC8a: Wide dispersive indoor use of processing aids in open systems

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ERC8d: Wide dispersive outdoor use of processing aids in open systems

Compartment	Level of Exposure	RCR	Method
Fresh water	0,00236 mg/l	< 0,01	ECETOC TRA
Marine water	0,000301 mg/l	< 0,01	
Soil	0,00115 mg/kg dw	< 0,01	

Additional information on exposure estimation:

ECETOC TRA model used.

Consumer exposure:

PC9a: Coatings and paints, thinners, paint removers

PC9b: Fillers, putties, plasters, modelling clay

PC9c: Finger paints

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)		<= 0,716	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/Escenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES18: Use in de-icing and anti-icing fluids. Use in screenwash products. - Consumer

Substance: **ethanol**, CAS-No. 64-17-5
Main User Groups: **SU21**: Consumer uses
Environmental Release Categories: **ERC8d**: Wide dispersive outdoor use of processing aids in open systems
Product category: **PC4**: Anti-Freeze and de-icing products

2.1. Contributing scenario controlling environmental exposure for: ERC8d

Amount used, frequency and duration of use (or from service life)

Annual amount per site : 12000 ton(s)/year
Number of emission days per year : 365

Conditions and measures related to treatment of waste (including article waste)

Note : Not applicable

2.2. Contributing scenario controlling consumer exposure for: PC4

Product (article) characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 50%.
Physical form of product : Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Exposure duration : 0,25 h
Use frequency/uses per day : 1

Other conditions affecting consumers exposure

Indoor or outdoor use :
Covers use in a one car garage (34 m³) under typical ventilation.
Covers use at ambient temperatures.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC8d: Wide dispersive outdoor use of processing aids in open systems

Compartment	Level of Exposure	RCR	Method
Fresh water	0,00443 mg/l	< 0,01	ECETOC TRA
Marine water	0,000508 mg/l	< 0,01	

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Soil	0,00123 mg/kg dw	< 0,01	
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Additional information on exposure estimation:

ECETOC TRA model used.

Consumer exposure:

PC4: Anti-Freeze and de-icing products

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)		<= 0,072	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES19: Use in cleaning agents - Consumer

Substance: **ethanol**, CAS-No. 64-17-5
Main User Groups: **SU21**: Consumer uses
Environmental Release Categories: **ERC8a**: Wide dispersive indoor use of processing aids in open systems
ERC8d: Wide dispersive outdoor use of processing aids in open systems
Product category: **PC35**: Washing and cleaning products (including solvent based products)

2.1. Contributing scenario controlling environmental exposure for: ERC8a / ERC8d

Amount used, frequency and duration of use (or from service life)

Annual amount per site : 4000 ton(s)/year
Number of emission days per year : 365

Conditions and measures related to treatment of waste (including article waste)

Note : Not applicable

2.2. Contributing scenario controlling consumer exposure for: PC35

Product (article) characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 15 %.
Physical form of product : Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Exposure duration : <= 0,5 h
Use frequency/Times per year: : <= 125

Other conditions affecting consumers exposure

Indoor or outdoor use :
Covers use under typical household ventilation.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC8a: Wide dispersive indoor use of processing aids in open systems
ERC8d: Wide dispersive outdoor use of processing aids in open systems

Compartment	Level of Exposure	RCR	Method
Fresh water	0,00244 mg/l	< 0,01	ECETOC TRA

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Marine water	0,000309 mg/l	< 0,01	
Soil	0,00115 mg/kg dw	< 0,01	

Additional information on exposure estimation:

ECETOC TRA model used.

Consumer exposure:

PC35: Washing and cleaning products (including solvent based products)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)		<= 0,030	ECETOC TRA

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES20: Uses in cosmetics/personal care products, perfumes and fragrances - Consumer

Substance: **ethanol**, CAS-No. 64-17-5
Main User Groups: **SU21**: Consumer uses
Environmental Release Categories: **ERC8a**: Wide dispersive indoor use of processing aids in open systems
Product category: **PC28**: Perfumes, fragrances
PC39: Cosmetics, personal care products

2.1. Contributing scenario controlling environmental exposure for: ERC8a

Amount used, frequency and duration of use (or from service life)

Annual amount per site : 20000 ton(s)/year
Number of emission days per year : 365

Conditions and measures related to treatment of waste (including article waste)

Note : Not applicable

2.2. Contributing scenario controlling consumer exposure for: PC28 / PC39

Consumer uses e.g. as a carrier in cosmetics/personal care products, perfumes and fragrances. Note: For cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC8a: Wide dispersive indoor use of processing aids in open systems

Compartment	Level of Exposure	RCR	Method
Fresh water	0,00236 mg/l	< 0,01	ECETOC TRA
Marine water	0,000301 mg/l	< 0,01	
Soil	0,00115 mg/kg dw	< 0,01	

Additional information on exposure estimation:

ECETOC TRA model used.



Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES21: Disposal of wastes. Hazardous waste incineration. - Industrial

Substance:	ethanol, CAS-No. 64-17-5
Main User Groups:	SU 3: Industrial use
Environmental Release Categories:	ERC7: Industrial use of substances in closed systems
Process categories:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent

2.1. Contributing scenario controlling environmental exposure for: ERC7

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 13000 ton(s)/year
Release type	: Continuous process
Number of emission days per year	: 330

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
	: No discharge of substance into waste water

Conditions and measures related to external recovery of waste

Note	: Not applicable
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2.2. Contributing scenario controlling worker exposure for: PROC1 / PROC2 / PROC3 / PROC8b / PROC15

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Application duration	: Covers daily exposures up to 8 hours (unless stated differently).
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Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Other conditions affecting workers exposure

Indoor or outdoor use	: Indoor
	Assumes use at not more than 20°C above ambient temperature.

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Handle substance within a closed system.
Keep container tightly closed.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC7: Industrial use of substances in closed systems

Compartment	Level of Exposure	RCR	Method
Fresh water	0,0433 mg/l	0,05	ECETOC TRA
Marine water	0,0048 mg/l	< 0,01	
Soil	0,0013 mg/kg dw	< 0,01	

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC1: Use in closed process, no likelihood of exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	< 0,001	ECETOC TRA

Worker exposure:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,014	ECETOC TRA

Worker exposure:

PROC3: Use in closed batch process (synthesis or formulation)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,022	ECETOC TRA

Worker exposure:

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,090	ECETOC TRA

Worker exposure:

PROC15: Use as laboratory reagent

Exposure route	Exposure duration	RCR	Method
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Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

combined routes (inhalative, dermal)	Long term	0,021	ECETOC TRA
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4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES22: Disposal of wastes. Approved landfill. - Professional

Substance:	ethanol, CAS-No. 64-17-5
Main User Groups:	SU22: Professional uses
Environmental Release Categories:	ERC8d: Wide dispersive outdoor use of processing aids in open systems
Process categories:	PROC1: Use in closed process, no likelihood of exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

2.1. Contributing scenario controlling environmental exposure for: ERC8d

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 3000 ton(s)/year
Release type	: Continuous process
Number of emission days per year	: 365

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
	: Municipal sewage treatment is not assumed.

Conditions and measures related to external recovery of waste

Note	: Not applicable
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2.2. Contributing scenario controlling worker exposure for: PROC1 / PROC3 / PROC4 / PROC8a

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Application duration	: Covers daily exposures up to 8 hours (unless stated differently).
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Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Other conditions affecting workers exposure

Indoor or outdoor use	: Outdoor
	Assumes use at not more than 20°C above ambient temperature.

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

None

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC8d: Wide dispersive outdoor use of processing aids in open systems

Compartment	Level of Exposure	RCR	Method
Fresh water	0,0111 mg/l	0,01	ECETOC TRA
Marine water	0,00118 mg/l	< 0,01	
Soil	0,00115 mg/kg dw	< 0,01	

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC1: Use in closed process, no likelihood of exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	< 0,001	ECETOC TRA

Worker exposure:

PROC3: Use in closed batch process (synthesis or formulation)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,052	ECETOC TRA

Worker exposure:

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,121	ECETOC TRA

Worker exposure:

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,242	ECETOC TRA



Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

ES23: Disposal of wastes. redistillation. - Industrial

Substance:	ethanol , CAS-No. 64-17-5
Main User Groups:	SU 3: Industrial use
Environmental Release Categories:	ERC1: Manufacture of substances
Process categories:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent

2.1. Contributing scenario controlling environmental exposure for: ERC1

Amount used, frequency and duration of use (or from service life)

Annual amount per site	: 14000 ton(s)/year
Number of emission days per year	: 220

Conditions and measures related to sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
	: No discharge of substance into waste water

Conditions and measures related to external recovery of waste

Note	: Not applicable
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2.2. Contributing scenario controlling worker exposure for: PROC1 / PROC2 / PROC3 / PROC8b / PROC15

Product (article) characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical form of product	: Liquid, vapour pressure 0.5 - 10 kPa

Amount used, frequency and duration of use (or from service life)

Application duration	: Covers daily exposures up to 8 hours (unless stated differently).
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Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. Avoid splashing.

Other conditions affecting workers exposure

Indoor or outdoor use	: Indoor
	Assumes use at not more than 20°C above ambient temperature.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply

Ethanol from agricultural origin (80-100%). Un-denatured.

Version: 11.0

Revision Date: 24.05.2018

Print Date: 18.04.2019

Handle substance within a closed system.
Keep container tightly closed.

3. Exposure estimation and reference to its source

Environmental release and exposure:

ERC1: Manufacture of substances

Compartment	Level of Exposure	RCR	Method
Fresh water	0,00236 mg/l	< 0,01	ECETOC TRA
Marine water	0,000301 mg/l	< 0,01	
Soil	0,0108 mg/kg dw	0,06	

Additional information on exposure estimation:

ECETOC TRA model used.

Worker exposure:

PROC1: Use in closed process, no likelihood of exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	< 0,001	ECETOC TRA

Worker exposure:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,014	ECETOC TRA

Worker exposure:

PROC3: Use in closed batch process (synthesis or formulation)

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,022	ECETOC TRA

Worker exposure:

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,090	ECETOC TRA

Worker exposure:

PROC15: Use as laboratory reagent

Exposure route	Exposure duration	RCR	Method
combined routes (inhalative, dermal)	Long term	0,021	ECETOC TRA



Ethanol from agricultural origin (80-100%). Un-denatured.

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4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site
http://sis.suedzucker.de/EHS/EScenarios/EtOH/EtOH_ES_all_CSR1_v8_Sept2015.pdf