

**Safety Data Sheet**  
according to WHS Regulations

Printing date 09.08.2018

Revision: 04.08.2018

**1 Identification**

- **Product identifier**
- **Trade name:** Ethanol absolute, molecular biology grade
- **Article number:** ET0011
- **CAS Number:**  
64-17-5
- **EC number:**  
200-578-6
- **Index number:**  
603-002-00-5
- **Registration number** 01-2119457610-43-XXXX
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use**  
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites  
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- **Product category** PC21 Laboratory chemicals
- **Process category**  
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.  
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  
PROC4 Chemical production where opportunity for exposure arises  
PROC5 Mixing or blending in batch processes  
PROC7 Industrial spraying  
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities  
PROC10 Roller application or brushing  
PROC15 Use as laboratory reagent  
PROC13 Treatment of articles by dipping and pouring
- **Environmental release category**  
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)  
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
- **Article category** AC30 Other articles with intended release of substances
- **Application of the substance / the preparation:** Laboratory reagent
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Scharlab, S.L.  
C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa  
08181 Sentmenat (Barcelona) SPAIN  
Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65  
email: scharlab@scharlab.com  
Internet Web Site: www.scharlab.com
- **Regional representation:**  
Chem-Supply Pty Ltd  
38-50 Bedford Street  
Gillman South Australia 5013 AUSTRALIA  
Tel: (08) 8440 2000 - FAX: (08) 8440 2001  
email: info@chemsupply.com.au  
Internet Web Site: www.chemsupply.com.au
- **Further information obtainable from:** technical department

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- **Emergency telephone number:**  
EMERGENCY CONTACT NUMBER: +61 08 8440 2000  
Business hours: 8:30am to 5:00pm, Monday to Friday.

### 2 Hazard(s) Identification

- **Classification of the substance or mixture**



flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

- **Label elements**

- **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

- **Hazard pictograms**



GHS02

- **Signal word** Danger

- **Hazard statements**

Highly flammable liquid and vapour.

- **Precautionary statements**

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

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

- **Chemical characterisation: Substances**

- **CAS No. Description**

64-17-5 ethanol

- **Identification number(s)**

- **EC number:** 200-578-6

- **Index number:** 603-002-00-5

### 4 First Aid Measures

- **Description of first aid measures**

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

- **After skin contact:**

Generally the product does not irritate the skin.

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- Immediately rinse with water.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. Then consult a doctor.
  - **After swallowing:**  
If symptoms persist consult doctor.  
Depression of the central nervous system.  
Drunkenness.  
Loss of coordination.  
Vertigo.  
Narcosis.  
Loss of knowledge
  - **Information for doctor:**
  - **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
  - **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.  
Do NOT use pressurized water.
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:**  
In the work of extinction it is necessary to provide respiratory protection and full chemical protective clothing.  
Wear fully protective suit.  
Wear self-contained respiratory protective device.  
Stay in danger area only with artificial systems and independent breathing apparatus.
- **Hazchem code:** •2YE

### 6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation  
Avoid sources of ignition.  
Ventilate area.  
Use water fog to evaporate or ventilate.  
If confined space, use self-contained breathing apparatus.  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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**7 Handling and Storage**

- **Handling:**
- **Precautions for safe handling**  
Keep away from heat and direct sunlight.  
Ensure good ventilation/exhaustion at the workplace.  
Earthing/equipotential bonding of the container and receiving equipment.  
Only use tools that do not produce sparks.  
Take precautionary measures against electrostatic discharge.  
Flammable vapors may accumulate in the container.  
Use an explosion-proof device.  
Keep receptacles tightly sealed.  
Wear an individual protective equipment.  
Wear chemically sealed goggles and / or face shield.  
Avoid contact with eyes and skin.  
Do not eat, drink or smoke during use.  
Wash hands after any manipulation.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Protect from heat.  
When heated the product forms flammable fumes.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Store in a cool location.  
It must be stored between 5 - 40 °C.  
Unsuitable material for receptacle: aluminium.  
Do not use light alloy receptacles.  
Suitable material for receptacles and pipes: steel or stainless steel.  
Suitable material for containers and pipes: polyethylene.
- **Information about storage in one common storage facility:**  
Incompatible products:  
Alkaline metals  
Oxidizing agents  
Ammonia  
Peroxides
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.  
Store receptacle in a well ventilated area.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls and personal protection**

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**

**64-17-5 ethanol**WES Long-term value: 1880 mg/m<sup>3</sup>, 1000 ppm

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**• DNELs**

DNEL/DMEL Workers:

Acute - local effects, inhalation: 1900 mg / m<sup>3</sup>

Long term - systemic, cutaneous effects: 343 mg / kg of body weight / day

Long term - systemic, inhalation: 950 mg / m<sup>3</sup>

DNEL / DMEL Population in general:

Acute - local effects, inhalation: 950 mg / m<sup>3</sup>

Long-term - systemic effects, oral: 87 mg / kg body weight / day

Long term - systemic, cutaneous effects: 114 mg / kg of body weight / day

Long term - systemic effects, inhalation: 206 mg / m<sup>3</sup>**• PNECs**

PNEC (Water):

Fresh water: 0.96 mg / l

Seawater: 0.79 mg / l

Flashing, fresh water: 2.75 mg / l

Flashing, seawater: 2,75 mg / l

PNEC (Sediments):

Freshwater sediments: 3.6 mg / kg dry weight

Sediments seawater: 2.9 mg / kg dry weight

PNEC (Earth): 0.63 mg / kg dry weight

PNEC (Oral):

Secondary poisoning: 720 mg / kg body weight

PNEC (STP):

Sewage station: 580 mg / l

**• Additional information:**

The lists valid during the making were used as basis.

This substance is totally or partially banned from being marketed and used as a phytosanitary and / or biocidal product.

For detailed information about the prohibitions, see: Database of biocidal products: <http://www.msssi.gob.es/ciudadanos/productos.do?tipo=plaguicidas>Database of phytosanitary products: [http://www.magrama.gob.es/agricultura/pags/fitos/registro/fichas/pdf/Lista\\_sa.pdf](http://www.magrama.gob.es/agricultura/pags/fitos/registro/fichas/pdf/Lista_sa.pdf)**• Exposure controls****• Personal protective equipment:****• General protective and hygienic measures:**

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

For handling the product should be mandatory use of personal protective equipment.

Moving work clothes after handling the product

Ensure adequate ventilation. Local extraction and general ventilation are essential to avoid the accumulation of flammable vapor mixtures.

**• Respiratory protection:**

Suitable respiratory protective device recommended.

Filter type:

Type A. Organic compounds with high boiling point (&gt; 65°C)

Protection against steam.

Standard EN149.

**• Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Butyl rubber, BR

Permeation: 6 (> 480 minutes)

Recommended thickness of the material:  $\geq 0.3$  mm

Standard EN 374

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

It is generally known that contact lenses should not be used when working with chemicals because they can contribute to the severity of possible eye damage.

Standard EN 166

- **Body protection:** Use protective suit.

### 9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

**Form:**

Fluid

**Colour:**

Colourless

- **Odour:**

Alcohol-like

- **Odour threshold:**

Not determined.

- **pH-value:**

7

- **Change in condition**

**Melting point/freezing point:**

-114 °C

**Initial boiling point and boiling range:** 78.3 °C

- **Flash point:**

14 °C

- **Flammability (solid, gas):**

Not applicable.

- **Ignition temperature:**

423 °C

- **Decomposition temperature:**

Not determined.

- **Auto-ignition temperature:**

Not determined.

- **Explosive properties:**

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

- **Explosion limits:**

**Lower:**

3.5 Vol %

**Upper:**

15 Vol %

- **Vapour pressure at 20 °C:**

60.928 hPa

- **Density at 20 °C:**

0.788 g/cm<sup>3</sup>

- **Relative density**

Not determined.

- **Vapour density**

Not determined.

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- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with water at 20 °C:** 1,000 g/l
- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity:**
  - Dynamic at 20 °C:** 1.2 mPas
  - Kinematic at 40 °C:** 0.51 mm<sup>2</sup>/s (DIN 53211/4)
- **Other information** No further relevant information available.

### 10 Stability and Reactivity

- **Reactivity** Highly flammable liquid and vapor.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions**
  - Reacts with strong acids and oxidising agents.
  - Reacts with silver nitrate and mercuric nitrate.
- **Conditions to avoid** Heat, open flames and sparks
- **Incompatible materials:** Strong oxidizing agents.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity**
- **LD/LC50 values relevant for classification:**


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  - Oral LD50 6,200 mg/kg (rat)
  - Inhalative LC50/4 h 20,000 mg/l (rat)
- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:**
  - This product is not considered harmful to aquatic organisms or that causes long-term adverse effects on the environment.
  - CL50 fish: 13000 mg / l Pimephales promelas
  - EC50 other aquatic organisms 1: 857 mg / l Artemia salina
  - EC50 72h algae 1: 12900 mg / l Selenastrum capricornutum
- **Persistence and degradability** Easily biodegradable
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** Log Pow: -0,35
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
  - Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

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Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### 14 Transport information

- **UN-Number**
- **ADG, IMDG, IATA**
- **UN proper shipping name**
- **ADG**
- **IMDG**
- **IATA**
- **Transport hazard class(es)**
- **ADG, IMDG, IATA**

UN1170

1170 ETHANOL (ETHYL ALCOHOL)  
ETHANOL (ETHYL ALCOHOL)  
ETHANOL



- **Class**
- **Label**
- **Packing group**
- **ADG, IMDG, IATA**
- **Environmental hazards:**
- **Marine pollutant:**
- **Special precautions for user**
- **Danger code (Kemler):**
- **EMS Number:**
- **Stowage Category**
- **Transport in bulk according to Annex II of Marpol and the IBC Code**

3 Flammable liquids.

3

II

No

Warning: Flammable liquids.

33

F-E,S-D

A

Not applicable.

• **Transport/Additional information:**

- **ADG**
- **Limited quantities (LQ)**
- **Transport category**
- **Tunnel restriction code**
- **UN "Model Regulation":**

1L

2

D/E

UN 1170 ETHANOL (ETHYL ALCOHOL), 3, II

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• **Hazchem code:**

•2YE

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### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Australian Inventory of Chemical Substances** Substance is listed.
- **Standard for the Uniform Scheduling of Medicines and Poisons** Substance is not listed.
- **GHS label elements**  
The substance is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



GHS02

- **Signal word** Danger
- **Hazard statements**  
Highly flammable liquid and vapour.
- **Precautionary statements**  
Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ventilating/lighting equipment.  
Wear protective gloves/protective clothing/eye protection/face protection.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** product safety department
- **Contact:** msds@scharlab.com
- **Abbreviations and acronyms:**  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organisation  
ADG: Australian Code for the Transport of Dangerous Goods by Road & Rail.  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
DNEL: Derived No-Effect Level (REACH)  
PNEC: Predicted No-Effect Concentration (REACH)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic

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vPvB: very Persistent and very Bioaccumulative  
Flam. Liq. 2: Flammable liquids – Category 2

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### Annex: Exposure scenario 1

• **1 - Short title of the exposure scenario**

Exposure scenario: Ethanol absolute

Industrial use

• **Sector of Use**

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

• **Process category**

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC5 Mixing or blending in batch processes

PROC7 Industrial spraying

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

PROC10 Roller application or brushing

PROC13 Treatment of articles by dipping and pouring

PROC15 Use as laboratory reagent

• **Environmental release category**

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

• **Description of the activities / processes covered in the Exposure Scenario**

Process assistant

Cleaning agent

Solvent or component of a coating

Application methods included:

- Application with brush or roller.

- Bath treatment

- Spray

- Immersion

- Soaking

- Manual or automatic spraying

• **2 - Conditions of use**

• **Duration and frequency**

Continuous process

Emission days (days/year): 300

8hrs (full working shift).

• **Environment**

Local dissolution factor in fresh water: 10

Local dissolution factor in seawater: 100

Wastewater is to be treated by a municipal STP. Municipal STP discharge rate &lt;2E3 m3/d.

Estimated substance removal from wastewater via domestic sewage treatment (%): 87

• **Physical parameters**

The substance is a unique structure

Not hydrophobic

Liquid, vapor pressure 0.5 - 10 kPa at standardized temperature and pressure

Miscible in water

Practically non-toxic to aquatic organisms

Readily biodegradable

Low bioaccumulation potential

• **Physical state** Fluid

• **Concentration of the substance in the mixture**

It covers a percentage of substance in the product up to 100 %

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- Raw material.
- **Used amount per time or activity**  
3000 tons per year  
1000 kg per day
  - **Other operational conditions**
  - **Other operational conditions affecting environmental exposure**  
Source: ESVOC SpERC 4.3a.v1  
Fraction released to air from process (initial release previous to MGR): 0.98  
Fraction released to residual water from process (initial release previous to MGR): 0.01  
Fraction released to ground from process (initial release previous to MGR): 0
  - **Other operational conditions affecting worker exposure**  
Assumes use at not more than 20 °C above ambient temperature, unless stated differently.  
Take precautionary measures against static discharge.  
Keep away from sources of ignition - No smoking.  
May be rolled or sprayed.  
Ensure adequate ventilation, especially in closed rooms.
  - **Risk management measures**
  - **Worker protection**
  - **Organisational protective measures**  
Provide a good standard of controlled ventilation (10 to 15 air changes per hour)  
Surround with a dyke storage facilities to prevent contamination of soil and water in case of spillage  
Avoid the discharge to the environment, in line with the regulatory requirements  
Keep good industrial hygiene.  
Make sure that the workplace is well-lit and organised.  
Do not exceed normal working hours per worker.
  - **Technical protective measures**  
Use product only in enclosed systems.  
Keep receptacles tightly sealed.  
Provide explosion-proof electrical equipment.
  - **Personal protective measures**  
Tightly sealed goggles  
Avoid contact with the eyes and skin.  
Do not inhale gases / fumes / aerosols.  
Detailed measures on hand protection according to Safety Data Sheet, section 8.
  - **Measures for consumer protection** Ensure adequate labelling.
  - **Environmental protection measures**
  - **Air** Treat the emissions to the atmosphere to provide a removal efficiency typical of (%): 90
  - **Water**  
The product should not be released into water without pretreatment. An on-site wastewater treatment is recommended. The typical site treatment technology of wastewater achieves removal efficiency (%): ( $\geq 87$ )  
Size of sewage treatment plant (m3/d): 2000  
In case of discharge to a domestic wastewater treatment plant, it is not necessary to treat the wastewater in situ.
  - **Soil**  
No significant emissions to the terrestrial environment are expected.  
No special measures required.
  - **Notes** In case of unintended release of the product: See section 6 of the Safety Data Sheet.
  - **Disposal measures**  
Estimated amount has gone to waste, no more than: 5 %  
Type of treatment suitable for waste: incineration. Elimination efficiency (%): 99.98  
Type of treatment suitable for waste: fuel for cement kilns. Elimination efficiency (%): 99.98  
Treat as hazardous waste.  
Forward for special waste incineration in compliance with local legal provisions.  
Disposal must be made according to official regulations.  
Ensure that waste is collected and contained.

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- **Disposal procedures**

Product residues are incinerated as special waste.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- **Waste type** Partially emptied and uncleaned packaging

- **3 - Exposure estimation**

- **Worker (dermal)**

PROC 1. 0.03 mg / kg / day. Risk characterization ratio: <0.001

PROC 2. 1.4 mg / kg / day. Risk characterization ratio: 0.004

PROC 3. 0.69 mg / kg / day. Risk characterization ratio: 0.002

PROC 4. 6.9 mg / kg / day. Risk characterization ratio: 0.02

PROC 5. 14 mg / kg / day. Risk characterization ratio: 0.04

PROC 7. 43 mg / kg / day. Risk characterization ratio: 0.125

PROC 8a. 14 mg / kg / day. Risk characterization ratio: 0.04

PROC 8b. 14 mg / kg / day. Risk characterization ratio: 0.04

PROC 10. 27 mg / kg / day. Risk characterization ratio: 0.08

PROC 13. 14 mg / kg / day. Risk characterization ratio: 0.04

PROC 15. 0.34 mg / kg / day. Risk characterization ratio: <0.001

- **Worker (inhalation)**

PROC: 1. 8 hours average 0.019 mg / m<sup>3</sup>. Risk characterization ratio: <0.001

PROC: 2. 8 hours average 9.6 mg / m<sup>3</sup>. Risk characterization ratio: 0.01

PROC: 3. 8 hours average 19 mg / m<sup>3</sup>. Risk characterization ratio: 0.02

PROC: 4. 8 hours average 38 mg / m<sup>3</sup>. Risk characterization ratio: 0.04

PROC: 5. 8 hours average 96 mg / m<sup>3</sup>. Risk characterization ratio: 0.101

PROC: 7. 8 hours average 140 mg / m<sup>3</sup>. Risk characterization ratio: 0.151

PROC: 8a. 8 hours average 96 mg / m<sup>3</sup>. Risk characterization ratio: 0.101

PROC: 8b. 8 hours average 48 mg / m<sup>3</sup>. Risk characterization ratio: 0.05

PROC: 10. 8 hours average 96 mg / m<sup>3</sup>. Risk characterization ratio: 0.101

PROC: 13. 8 hours average 96 mg / m<sup>3</sup>. Risk characterization ratio: 0.101

PROC: 15. 8 hours average 19 mg / m<sup>3</sup>. Risk characterization ratio: 0.02

- **Environment**

PEC for microorganisms in municipal sewage plant: 6.32E + 00 mg / l. Risk characterization ratio: 1.09E-02

Local PEC in surface waters: 5.77E-01 mg / l. Risk characterization ratio: 6.01E-01

Local PEC in freshwater sediment 2.21E + 00 mg / l. Risk characterization ratio: 6.01E-01

Local PEC in seawater during the emission episode: 6.35E-02 mg / l. Risk characterization ratio: 8.04E-02

Local PEC in marine sediments: 2.44E-01 mg / l. Risk characterization ratio: 8.05E-02

Local PEC in the soil: 5.25E-02 mg / l. Risk characterization ratio: 3.09E-01

The risk of environmental exposure is based on fresh water.

- **4 - Guidance for downstream users**

Environment:

Msafe: 124000 kg / day

The guidelines are based on the assumed operating conditions, which may not be applicable to all sites; therefore, it may be necessary to apply scaling to define the risk management measures specific to each site.

$$(\text{mspERC} * (1 - \text{EER}, \text{spERC})) * \text{Frelease}, \text{spERC}) / (\text{DFspERC}) \geq (\text{msite} * (1 - \text{EER}, \text{site}) * \text{Frelease}, \text{site}) / (\text{DFsite})$$

- MspERC: Rate of use of the substance in the SPERC
- EER, spERC: Efficiency of the MGR in the SPERC
- EER, spERC: Fraction of initial emission in the SPERC
- DFspERC: Dissolution factor in the effluent rivers of the municipal wastewater treatment plant

- Msite: Rate of use of the substance at the site.
- EER, site: Effectiveness of the MGR on the site.

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- Frelease, site: Fraction of initial emission at the site.
  - DFsite: Dissolution factor in the effluent rivers of the municipal wastewater treatment plant.
- If the escalation reveals the possibility of unsafe use (eg, CCR > 1), additional MGR or site-specific chemical safety assessment will be required. More information on scaling and control technologies in the SPERC data sheet (<http://cefic.org/en/reach-for-industries-libraries.html>)
- Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.
- Whether the downstream user uses the substance / the mixture within the scope of the Exposure Scenario can be determined by means of a technical assessment.
- For the risk assessment, the tools recommended by ECHA can be used.
- Health:
- Inhalation (vapor). No correction is required since an 8-hour exposure is assumed in all cases (evaluation in the worst case). No correction is required as it is assumed that all exposures correspond to substance concentrations of up to 100%.
- Cutaneous: No correction is required as it is assumed that all exposures correspond to substance concentrations of up to 100%. No correction is required since an 8-hour exposure is assumed in all cases (evaluation in the worst case).

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**Annex: Exposure scenario 2****1 - Short title of the exposure scenario**

Exposure scenario: Ethanol absolute

Laboratory use

**Sector of Use**

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

**Process category**

PROC10 Roller application or brushing

PROC15 Use as laboratory reagent

**Environmental release category**

ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

**Description of the activities / processes covered in the Exposure Scenario**

Use of small quantities in laboratory environments, including material transfers and equipment cleaning.

**2 - Conditions of use****Duration and frequency**

Continuous process

Emission days (days/year): 365

8hrs (full working shift).

**Physical parameters**

The substance is a unique structure

Not hydrophobic

Liquid, vapor pressure 0.5 - 10 kPa at standardized temperature and pressure

Miscible in water

Practically non-toxic to aquatic organisms

Readily biodegradable

Low bioaccumulation potential

**Physical state** Fluid**Concentration of the substance in the mixture**

It covers a percentage of substance in the product up to 100 %

Raw material.

**Used amount per time or activity**

0.01 tons per year

0.0274 kg per day

**Other operational conditions****Other operational conditions affecting environmental exposure**

Source: ESVOC SpERC 8.17.v1

Fraction released to air from process (initial release previous to MGR): 0.5

Fraction released to residual water from process (initial release previous to MGR): 0.5

Fraction released to ground from process (initial release previous to MGR): 0

**Other operational conditions affecting worker exposure**

Assumes use at not more than 20 °C above ambient temperature, unless stated differently.

Take precautionary measures against static discharge.

Keep away from sources of ignition - No smoking.

May be rolled or sprayed.

Ensure adequate ventilation, especially in closed rooms.

**Risk management measures****Worker protection****Organisational protective measures**

Avoid the discharge to the environment, in line with the regulatory requirements

Keep good industrial hygiene.

Make sure that the workplace is well-lit and organised.

Do not exceed normal working hours per worker.

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**• Technical protective measures**

Use product only in enclosed systems.  
Keep receptacles tightly sealed.  
Provide explosion-proof electrical equipment.

**• Personal protective measures**

Tightly sealed goggles  
Avoid contact with the eyes and skin.  
Do not inhale gases / fumes / aerosols.  
Detailed measures on hand protection according to Safety Data Sheet, section 8.

**• Measures for consumer protection** Ensure adequate labelling.**• Environmental protection measures****• Air**

No special measures required.  
Treat the emissions to the atmosphere to provide a removal efficiency typical of (%): 90

**• Water**

Do not release waste water directly into the environment. In situ treatment of wastewater is not taken for granted.

**• Soil**

No significant emissions to the terrestrial environment are expected.  
No special measures required.

**• Notes** In case of unintended release of the product: See section 6 of the Safety Data Sheet.**• Disposal measures**

Type of treatment suitable for waste: incineration. Elimination efficiency (%): 99.98  
Treat as hazardous waste.

Forward for special waste incineration in compliance with local legal provisions.

Disposal must be made according to official regulations.

Ensure that waste is collected and contained.

**• Disposal procedures**

Product residues are incinerated as special waste.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**• Waste type** Partially emptied and uncleaned packaging**• 3 - Exposure estimation****• Worker (dermal)**

PROC 10. 27 mg / kg / day. Risk characterization ratio: 0.08

PROC 15. 0.34 mg / kg / day. Risk characterization ratio: <0.001

**• Worker (inhalation)**

PROC: 10. 8 hours average 96 mg / m<sup>3</sup>. Risk characterization ratio: 0.101

PROC: 15. 8 hours average 19 mg / m<sup>3</sup>. Risk characterization ratio: 0.02

**• Environment**

PEC for microorganisms in municipal sewage plant: 6.32E + 00 mg / l; Risk characterization ratio: 1.09E-02

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Local PEC in the soil: 5.25E-02 mg / l. Risk characterization ratio: 3.09E-01

The risk of environmental exposure is based on the soil.

**• 4 - Guidance for downstream users**

Environment:

Msafe: 124000 kg / day

Not applicable for wide dispersive applications.

More information on scaling and control technologies in the SPERC data sheet (<http://cefic.org/en/reach-for-industries-libraries.html>)

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