Ethanol 70%

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

1.1 Product identifier

Identification of the substance : Microsart® Sample Prep, Ethanol 70%
Article number : SMB95-2004
Registration Number (REACH) : not relevant (mixture)

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

Uses advised against : none known
Identified uses : laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Company : Sartorius Stedim Biotech GmbH
August-Spindler-Strasse 11
D-37079 Göttingen
Telephone : +49.551.308.0
Telefax : +49.551.308.3289
E-mail : PCR@Sartorius.com

1.4 Emergency telephone number

Emergency information service : **Poison Centre Munich: +49/(0)89 19240**

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Flammable liquid, Category 2	H225, Flam. Liq. 2
Serious eye damage / eye irritation, Category 2	H319, Eye Irrit. 2

2.2 Label elements

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

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.

: **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.

The above mentioned labeling is valid for distribution to industrial user.

2.3 Other hazards
There is no additional information.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Name of substance Ethyl alcohol		**H-statements**	**m% - range**
Cas number	**EC number**		
64-17-5	200-578-6	Flam. Liq. 2, H225 Eye Irrit. 2, H319	70%

SECTION 4: First aid measures

4.1 Description of first aid measures
Following inhalation:
Provide fresh air.

Following skin contact:
Rinse skin with water/shower.

Following eye contact:
Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

Following ingestion
Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed
Irritation, Vertigo, Nausea, Abdominal pain, Vomiting, Breathing difficulties, Narcosis

4.3 Indication of any immediate medical attention and special treatment needed
none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Co-ordinate fire-fighting measures to the fire surroundings
water spray, foam, alcohol resistant foam, dry extinguishing powder, carbon dioxide (CO_2)
Unsuitable extinguishing media
water jet

5.2 Special hazards arising from the substance or mixture
Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture.
Hazardous combustion products
May produce toxic fumes of carbon monoxide if burning.

5.3 Advice for firefighters

Vapours are heavier than air. Beware of reignition. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
For non-emergency personnel
Do not breathe vapour/spray. Avoid contact with skin and eyes. Removal of ignition sources.

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

6.3 Methods and material for containment and cleaning up
Advices on how to contain a spill
Covering of drains.
Advices on how to clean up a spill
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Other information relating to spills and releases
Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products	: see section 5.
Personal protective equipment	: see section 8.
Incompatible materials	: see section 10.
Disposal considerations	: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Provision of sufficient ventilation. Keep container tightly closed.

Measures to prevent fire as well as aerosol and dust generation
Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge.

Advice on general occupational hygiene
Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Use barrier cream.

7.2 Conditions for safe storage, including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight.

Incompatible substances or mixtures
Observe hints for combined storage.

Consideration of other advice
Ground/bond container and receiving equipment.

Ventilation requirements
Use local and general ventilation.

Specific designs for storage rooms or vessels
Recommended storage temperature: 15 - 25 °C.

7.3 Specific end use(s)
No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m^3]	STEL [ppm]	STEL [mg/m3]	Source
GB	Ethanol	64-17-5	WEL		1920			EH40/2005

Notation
STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified
TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours' time-weighted average

Relevant DNELs/DMELs/PNECs and other threshold levels

relevant DNELs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Ethyl alcohol	64-17-5	DNEL	1.900 mg/m^3	human, inhalatory	Worker (industry)	acute – systemic effects
Ethyl alcohol	64-17-5	DNEL	343 mg/kg	human, dermal	Worker (industry)	chronic – systemic effects
Ethyl alcohol	64-17-5	DNEL	950 mg/m3	human, inhalatory	Worker (industry)	chronic – systemic effects

relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment	Exposure time
Ethyl alcohol	64-17-5	PNEC	0.79 mg/cm^3	Marine water	continuous
Ethyl alcohol	64-17-5	PNEC	2.75 mg/cm^3	Air	continuous
Ethyl alcohol	64-17-5	PNEC	3.6 mg/cm3	Freshwater sediment	continuous
Ethyl alcohol	64-17-5	PNEC	0.96 mg/cm^3	Freshwater	continuous
Ethyl alcohol	64-17-5	PNEC	580 mg/cm^3	Sewage treatment plan (STP)	continuous
Ethyl alcohol	64-17-5	PNEC	0.63 mg/cm^3	Soil	continuous

8.2 Exposure controls
Individual protection measures (personal protective equipment)

Respiratory protection : Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and va- pours with a boiling point of > 65 °C, colour code: Brown).

Hand protection : Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
type of material
Butyl caoutchouc (butyl rubber)
material thickness
0,7 mm
breakthrough times of the glove material
>480 minutes (permeation: level 6)

Eye/face protection : Use safety goggle with side protection.

Skin- and body protection : Lab coat

other protection measures : Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Flame-retardant protective clothing.

Environmental exposure controls
Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: liquid (fluid)
Colour	: colourless
Odour	: like alcohol
Odour threshold	: No data available

Other physical and chemical parameters

pH (value)	: neutral
Melting / freezing point	: -114°C (data apply to the main component)
Initial boiling point and boiling range	: 78°C (data apply to the main component)
Flash point	: >22°C
Evaporation rate	: no data available
Flammability (solid, gas)	: not relevant (fluid)

Explosion limits

Lower explosion limit (LEL)	: 3.5 vol.-% (data apply to the main component)
Upper explosion limit (UEL)	: 15 vol.-% (data apply to the main component)
Explosion limits of dust clouds	: not relevant

Vapour pressure	: 59 hPa (data apply to the main component)
Density	: 0.88 g/cm^3
Vapour density	: This information is not available
Bulk density	: not applicable
Relative density	: Information on this property is not available.
Solubility(ies)	
Water solubility	: miscible in any proportion
Partition coefficient	
n - Octanol / water (log KOW)	: This information is not available.
Auto-ignition temperature	: 425°C (data apply to the main component)
Viscosity	: dynamische viscosity 1.2 mPa s at 20°C (data apply to the main component)
Explosive properties	: none
Oxidising properties	: none

9.2 Other information
There is no additional information.

SECTION 10: Stability and reactivity

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

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

10.3 Possibility of hazardous reactions
Violent reaction with: alkali metals, alkaline earth metal, acetic anhydride, peroxides, phosphorus oxides (e.g. P_2O_5), strong oxidiser, nitric acid, nitrate, perchlorates => explosive properties

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

10.5 Incompatible materials
Different plastic and rubber

10.6 Hazardous decomposition products
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

Acute toxicity

Name of substance	Cas No	Exposure route	Endpoint	Value	Species	Source
Ethyl alcohol	64-17-5	Inhalative: vapour	LC50	95.6 mg/l/4h	Rat	
Ethyl alcohol	64-17-5	Oral	LD50	7060 mg/kg	Rat	

Skin corrosion/irritation : Shall not be classified as corrosive/irritant to skin.
Serious eye damage/eye irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : Shall not be classified as a respiratory or skin sensitiser.

Summary of evaluation of the CMR properties:
Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant.

Specific target organ toxicity - single exposure : Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure : Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard : Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics
If inhaled : vertigo, inebriation, breathing difficulties, narcosis
If swallowed : abdominal pain, nausea, vomiting, causes damage to liver through prolonged or repeated exposure if swallowed
If on skin : Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation)
If in eyes : Causes serious eye irritation
Other information : None

SECTION 12: Ecological information

12.1 Toxicity
acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)

quatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Source	Exposure time
Ethyl alcohol	64-17-5	EC50	>9,000 mg/l	Daphnia magna		48 Hours
Ethyl alcohol	64-17-5	EC50	8,140 mg/l	Orfe (Leuciscus idus)		96 Hours

12.2 Persistency and degradability

Data not available

Process	Degradation rate	Time
Biotic/abiotisch	94 %	d

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time
Ethyl alcohol	64-17-5	Biotic/abiotisch	94 %	d

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Ethyl alcohol	64-17-5		-0,31	

12.4 Mobility in soil
Data are not available.

12.5 Results of PBT and vPvB assessment
Data are not available.

12.6 Other adverse effects
Slightly hazardous to water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information
Do not empty into drains.

Waste treatment of containers/packagings
It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

13.2 Relevant provisions relating to waste
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks
Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number : 1170

14.2 UN proper shipping name : ETHANOL SOLUTION
Hazardous ingredients : Ethyl alcohol

14.3 Transport hazard class(es)
Class : 3 (flammable liquids)

14.4 Packing group : II (substance presenting medium danger)

14.5 Environmental hazards : none (non-environmentally hazardous acc. to the dangerous goods regulations)

14.6 Special precautions for user
Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code
The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

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

UN number	: 1170
Proper shipping name	: ETHANOL SOLUTION
Particulars in the transport document	: UN1170, ETHANOL SOLUTION, mixture, 3, II, (D/E)
Class	: 3
Classification code	: F1
Packaging group	: II
Danger label(s)	: 3

Special provisions (SP)	: 144, 601
Excepted quantities (EQ)	: E2
Limited quantities (LQ)	: 1 L
Transport category (TC)	: 2
Tunnel restriction code (TRC)	: D/E
Hazard identification No	: 33

International Maritime Dangerous Goods Code (IMDG)

UN number	: 1170
Proper shipping name	: ETHANOL SOLUTION
Particulars in the shipper's declaration	: UN1170, ETHANOL SOLUTION, mixture, 3, II, 12°C c.c.

Class	: 3
Packaging group	: II
Danger label(s)	: 3

Special provisions (SP)	: 144
Excepted quantities (EQ)	: E2
Limited quantities (LQ)	: 1 L
EmS	: F-E, S-D
Stowage category	: A

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Seveso Richtlinie

69/82/EC (Seveso II)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes)		Notes
8	extremely flammable	10	50	25)

Notation

25) Extremely flammable gases and liquids:
1. liquid substances and preparations which have a flash point lower than 0 °C and the boiling point (or, in the case of a boiling range, the initial boiling point) of which at normal pressure is less than or equal to 35 °C (risk phrase R 12, first indent), and
2. gases which are flammable in contact with air at ambient temperature and pressure (risk phrase R12, second indent), which are in a gaseous or supercritical state, and
3. flammable and highly flammable liquid substances and preparations maintained at a temperature above their boiling point

2012/18/EU (Seveso III)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the ap- plication of lower and upper-tier re- quirements		Notes
P5a	flammable liquids (cat. 1)	10	50	49)

Notation

49) Flammable liquids, category 1, or
Flammable liquids category 2 or 3 maintained at a temperature above their boiling point, or
Other liquids with a flash point ≤ 60 °C, maintained at a temperature above their boiling point

Limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products (2004/42/EC, Deco-Paint Directive)
VOC-Content 70 %

Directive on industrial emissions (VOCs, 2010/75/EU)
VOC-Content 70 %

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

16.1 Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant)
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	parts per million

REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	short-term exposure limit
TWA	time-weighted average
VOC	Volatile Organic Compounds
vPvB	very Persistent and very Bioaccumulative
WEL	workplace exposure limit

Key literature references and sources for data
Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
Regulation (EC) No. 1272/2008 (CLP, EU GHS)

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

Code	Text
H225	highly flammable liquid and vapour
H319	causes serious eye irritation

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