

# Safety Data Sheet

According to Regulation (EC) No. 2015/830



## 2-Propanol

Version 1.0

Date of Compilation 7/4/2016

Printed on 7/18/2016

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

#### 1.1 Product identifier

Identification of the substance : Microsart® Sample Prep, 2-Propanol  
Article number : SMB95-2004  
Index No : 603-117-00-0  
EC No : 200-661-7  
CAS number : 67-63-0  
Registration Number (REACH) : 01-2119457558-25-xxxx

#### 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  
specific target organ toxicity - single exposure H336, STOT SE 3  
(narcotic effects, drowsiness), Category 3

#### 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.  
H336 May cause drowsiness or dizziness.

Precautionary statements

: **prevention**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P280 Wear protective clothing/eye protection.

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### : 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

### 3.1 Substances

Name of substance		H-statements	m% - range
Cas number	EC number		
67-63-0	200-661-7	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE3, H336	≥99,8%

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### Following inhalation:

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact:

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

#### 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

Dizziness, Unconsciousness, Headache, Vomiting, Vertigo, Nausea, Fatigue, Irritation, Dyspnoea

### 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<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

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

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

#### Hazardous combustion products

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

### 5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

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## SECTION 6: Accidental release measures

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

#### For non-emergency personnel

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance 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.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Provision of sufficient ventilation.

#### Measures to prevent fire as well as aerosol and dust generation

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Due to danger of explosion, prevent leakage of vapors into cellars, flues and ditches.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feeding stuffs. When using do not smoke.

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

Keep container tightly closed. Protect from sunlight.

#### Incompatible substances or mixtures

Observe hints for combined storage.

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### 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)

n.av.

## 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 <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Source
GB	propan-2-ol	67-63-0	WEL	400	999	500	1.250	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

#### Human health values

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	888 mg/kg	human, dermal	Worker (industry)	chronic – systemic effects
DNEL	500 mg/m <sup>3</sup>	human, inhalatory	Worker (industry)	chronic – systemic effects

#### Environmental values

Endpoint	Threshold level	Environmental compartment	Exposure time
PNEC	140.9 mg/l	Freshwater	Short-term (single instance)
PNEC	140.9 mg/l	Marine water	Short-term (single instance)
PNEC	2,251 mg/l	Sewage treatment plan (STP)	Short-term (single instance)
PNEC	552 mg/kg	Freshwater sediment	Short-term (single instance)
PNEC	552 mg/kg	Marine sediment	Short-term (single instance)
PNEC	160 mg/kg	Water	Short-term (single instance)
PNEC	28 mg/kg	Soil	Short-term (single instance)
PNEC	140.9 mg/l	water	continuous

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### 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 vapours 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**  
NBR (Nitrile rubber)  
**material thickness**  
0,4 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.

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## 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 : 1-196 ppm

#### Other physical and chemical parameters

- pH (value) : n.av.  
Melting / freezing point : -89°C  
Initial boiling point and boiling range : 82°C at 1.013 hPa  
Flash point : 12°C (closed cup)  
Evaporation rate : n.av.  
Flammability (solid, gas) : not relevant (fluid)

#### Explosion limits

- Lower explosion limit (LEL) : 2 Vol.-% (50 g/m<sup>3</sup>)  
Upper explosion limit (UEL) : 13,4 Vol.-% (330 g/m<sup>3</sup>)  
Explosion limits of dust clouds : not relevant

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Vapour pressure	: 43 hPa at 20°C 60,2 hPa at 25°C
Density	: 0.786 g/cm <sup>3</sup> at 20°C
Vapour density	: 2,07 (air = 1)
Bulk density	: n.ap.
Relative density	: Information on this property is not available.

### Solubility(ies)

Water solubility	: miscible in any proportion
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### Partition coefficient

n - Octanol / water (log KOW)	: 0.05 (OECD Guideline 107)
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Auto-ignition temperature	: 425°C – (DIN 51794)
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Decomposition temperature	: n.v.
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Viscosity	: dynamische viscosity 2.2 mPa s at 20°C 2.1 mPa s at 25°C
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Explosive properties	: none
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Oxidising properties	: none
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## 9.2 Other information

Temperature class (EU, acc. to ATEX)	: T2 (Maximum permissible surface temperature on the equipment: 300°C)
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Temperature class (USA, acc. to NEC 500)	: (Maximum permissible surface temperature on the equipment: 300°C)
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## 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

Exothermic reaction with: Iron, Amines, Nitric acid, Oxidisers, Aldehydes

Danger of explosion: Hydrogen peroxide, Chlorates

### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. - UV-radiation/sunlight.

### 10.5 Incompatible materials

Different plastic and rubber

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Acute toxicity:

Shall not be classified as acutely toxic.

Exposure route	Endpoint	Value	Species	Source
Inhalative: vapour	LC50	37.5 mg/l/4h	Rat	
Oral	LC50	5,045 mg/kg	Rat	
Dermal	LC50	12,800 mg/kg	Rabbit	

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 : May cause drowsiness or dizziness.

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 : breathing difficulties  
If swallowed : vomiting, aspiration hazard, pneumonia  
If on skin : repeated exposure may cause skin dryness or cracking  
If in eyes : n.av.  
Other information : Headache, Narcosis, Unconsciousness, Nausea, Vertigo

### SECTION 12: Ecological information

#### 12.1 Toxicity

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

#### Aquatic toxicity (acute)

Endpoint	Value	Species	Source	Exposure time
EC50	>13,000 mg/l	Daphnia magna		48 Hours
EC50	>1,000 mg/l	Scenedesmus quadricauda		72 Hours
EC50	1,400 mg/l	Bluegill (Lepomis macrochirus)		96 Hours

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### 12.2 Persistency and degradability

The substance is readily biodegradable.

Theoretical Oxygen Demand: 2.396 mg/mg

Theoretical Carbon Dioxide: 2.197 mg/mg

Process	Degradation rate	Time
Biotic/abiotisch	95 %	21 d
Oxygen depletion	53 %	5 d

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW) : 0,05

### 12.4 Mobility in soil

n.av.

### 12.5 Results of PBT and vPvB assessment

n.av.

### 12.6 Other adverse effects

Slightly hazardous to water.

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## 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.

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## SECTION 14: Transport information

14.1 UN number : 1219

14.2 UN proper shipping name : ISOPROPANOL  
Hazardous ingredients : 2-Propanol



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- 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 : 1219  
Proper shipping name : ISOPROPANOL  
Particulars in the transport document : UN1219, ISOPROPANOL, 3, II, (D/E)  
Class : 3  
Classification code : F1  
Packaging group : II  
Danger label(s) : 3



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

### International Maritime Dangerous Goods Code (IMDG)

UN number : 1219  
Proper shipping name : ISOPROPANOL  
Particulars in the shipper's declaration : UN1219, ISOPROPANOL, 3, II, 12°C c.c.  
Class : 3  
Packaging group : II  
Danger label(s) : 3



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

### 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)

**Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)**  
Not listed.

**Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)**  
Not listed.

**Regulation 850/2004/EC on persistent organic pollutants (POP)**  
Not listed.

**Restrictions according to REACH, Annex XVII**  
Not listed.

**List of substances subject to authorisation (REACH, Annex XIV)**  
Not listed.

##### Seveso Richtlinie

2012/18/EU (Seveso III)			
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes
P5c	flammable liquids (cat. 2, 3)	5.000 50.000	51)

##### Notation

51) Flammable liquids, categories 2 or 3 not covered by P5a and P5b

##### 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 100 %

##### Directive on industrial emissions (VOCs, 2010/75/EU)

VOC-Content 100 %

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

Not listed.

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

Not listed.

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

Not listed.

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### National inventories

Substance is listed in the following national inventories:

EINECS/ELINCS/NLP (Europe)

REACH (Europe)

### 15.2 Chemical Safety Assessment

For this substance a chemical safety assessment has been 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 ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )
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

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PNEC	Predicted No-Effect Concentration
ppm	parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	short-term exposure limit
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
H336	may cause drowsiness or dizziness

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