

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

#### 1.1. Product identifier

Product form : Mixture  
Trade name : smarhand Gel  
Article number : REF 208252, 208253, 208250, 208251  
Type of product : Biocidal products

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture : Disinfectant  
Medical device  
Biocidal product

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier

Alfred Becht GmbH  
Carl-Zeiss-Str. 16  
P.O. Box 1145  
77656 Offenburg  
T +49 781 60586-0 - F +49 781 60586-40

##### Email competent person

sds@kft.de

#### 1.4. Emergency telephone number

Emergency number : Poison Information Center Freiburg  
+ 49 761 19240

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 2 H225  
Serious eye damage/eye irritation, Category 2 H319  
Full text of H- and EUH-statements: see section 16

##### Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. Causes serious eye irritation.

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

GHS07

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapour.  
H319 - Causes serious eye irritation.

Precautionary statements (CLP) :

P210 - Keep away from hot surfaces. No smoking.  
P280 - Wear protective gloves, eye protection.  
P337+P313 - If eye irritation persists: Get medical advice/attention.

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Extra phrases : The additional label requirements of directive EU 528/2012 about the available on the market and use of biocidal products have to be observed.

### 2.3. Other hazards

Contains no PBT and/or vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

Component	
Ethanol (64-17-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
2,2',2''-nitrioltriethanol (102-71-6)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
propan-2-ol (67-63-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Glycerol (56-81-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Ethanol (Active substance (Biocide)) substance with national workplace exposure limit(s) (DE)	CAS-No.: 64-17-5 EC-No.: 200-578-6 EC Index-No.: 603-002-00-5 REACH-no: 01-2119457610-43-xxxx	$\geq 70 - < 80$	Flam. Liq. 2, H225 Eye Irrit. 2, H319
propan-2-ol substance with national workplace exposure limit(s) (DE)	CAS-No.: 67-63-0 EC-No.: 200-661-7 EC Index-No.: 603-117-00-0	$\geq 2.5 - < 5$	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
2,2',2''-nitrioltriethanol substance with national workplace exposure limit(s) (DE)	CAS-No.: 102-71-6 EC-No.: 203-049-8 REACH-no: 01-2119486482-31-xxxx	$\geq 0.25 - < 1$	Not classified
Glycerol substance with national workplace exposure limit(s) (DE)	CAS-No.: 56-81-5 EC-No.: 200-289-5	$\geq 0.25 - < 1$	Not classified

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Specific concentration limits:		
Name	Product identifier	Specific concentration limits (%)
Ethanol (Active substance (Biocide))	CAS-No.: 64-17-5 EC-No.: 200-578-6 EC Index-No.: 603-002-00-5 REACH-no: 01-2119457610-43-xxxx	(50 ≤ C < 100) Eye Irrit. 2, H319

Full text of H- and EUH-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: In all cases of doubt, or when symptoms persist, seek medical attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth out with water. Do not induce vomiting without medical advice. Call a poison center or a doctor if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after eye contact	: Eye irritation.
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### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire. Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Strong water jet.

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

Fire hazard	: Highly flammable liquid and vapour.
Explosion hazard	: Explosive vapour/air mixtures may be formed.
Hazardous decomposition products in case of fire	: Toxic fumes may be released. Carbon monoxide. Carbon dioxide.

### 5.3. Advice for firefighters

Firefighting instructions	: Protect container with water spray.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Other information	: Do not allow run-off from fire fighting to enter drains or water courses. Disposal must be done according to official regulations.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes.
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### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid sub-soil penetration. Prevent entry to sewers and public waters.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. Notify authorities if product enters sewers or public waters.

Other information : Disposal must be done according to official regulations.

### 6.4. Reference to other sections

Information for safe handling. See section 7. Concerning personal protective equipment to use, see section 8. For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : In use, may form flammable vapour-air mixture.  
Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Avoid contact with skin and eyes.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Technical measures : Ground/bond container and receiving equipment.  
Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed.  
Heat and ignition sources : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from heat and direct sunlight.  
Information about storage in one common storage facility : Keep away from food, drink and animal feeding stuffs.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

Ethanol (64-17-5)	
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Ethanol
AGW (OEL TWA) [1]	380 mg/m <sup>3</sup>
AGW (OEL TWA) [2]	200 ppm
Peak exposure limitation factor	4(II)

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<b>Ethanol (64-17-5)</b>	
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden
Regulatory reference	TRGS900
<b>2,2',2''-nitrilotriethanol (102-71-6)</b>	
<b>Germany - Occupational Exposure Limits (TRGS 900)</b>	
Local name	2,2',2''-Nitrilotriethanol
AGW (OEL TWA) [1]	1 mg/m <sup>3</sup> (E)
Peak exposure limitation factor	1(I)
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden
Regulatory reference	TRGS900
<b>propan-2-ol (67-63-0)</b>	
<b>Germany - Occupational Exposure Limits (TRGS 900)</b>	
Local name	Propan-2-ol
AGW (OEL TWA) [1]	500 mg/m <sup>3</sup>
AGW (OEL TWA) [2]	200 ppm
Peak exposure limitation factor	2(II)
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden
Regulatory reference	TRGS900
<b>Germany - Biological limit values (TRGS 903)</b>	
Local name	Propan-2-ol
Biological limit value	25 mg/l Parameter: Aceton - Untersuchungsmaterial: B = Vollblut, U = Urin - Probenahmezeitpunkt: b) Expositionsende, bzw. Schichtende - Festlegung/Begründung: 11/2012 DFG 25 mg/l Parameter: Aceton - Untersuchungsmaterial: U = Urin - Probenahmezeitpunkt: b) Expositionsende, bzw. Schichtende - Festlegung/Begründung: 11/2012 DFG
Regulatory reference	TRGS 903
<b>Glycerol (56-81-5)</b>	
<b>Germany - Occupational Exposure Limits (TRGS 900)</b>	
Local name	Glycerin
AGW (OEL TWA) [1]	200 mg/m <sup>3</sup> (E)
Peak exposure limitation factor	2(I)
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden
Regulatory reference	TRGS900

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### 8.1.2. Recommended monitoring procedures

No additional information available

### 8.1.3. Air contaminants formed

No additional information available

### 8.1.4. DNEL and PNEC

<b>Ethanol (64-17-5)</b>	
<b>DNEL/DMEL (Workers)</b>	
Long-term - systemic effects, dermal	8238 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	380 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Long-term - systemic effects, inhalation	114 mg/m <sup>3</sup>
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.96 mg/l
PNEC aqua (marine water)	0.79 mg/l
PNEC aqua (intermittent, freshwater)	2.75 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	3.6 mg/kg dwt
PNEC sediment (marine water)	2.9 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	0.63 mg/kg dwt
<b>PNEC (Oral)</b>	
PNEC oral (secondary poisoning)	380 mg/kg food
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	580 mg/l
<b>2,2',2''-nitrioltriethanol (102-71-6)</b>	
<b>DNEL/DMEL (Workers)</b>	
Long-term - systemic effects, dermal	7.5 mg/kg bodyweight/day
Long-term - local effects, dermal	140 µg/cm <sup>2</sup>
Long-term - local effects, inhalation	1 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Long-term - systemic effects, oral	3.3 mg/kg bodyweight/day
Long-term - systemic effects, dermal	2.66 mg/kg bodyweight/day
Long-term - local effects, dermal	70 µg/cm <sup>2</sup>
Long-term - local effects, inhalation	0.4 mg/m <sup>3</sup>
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.32 mg/l
PNEC aqua (marine water)	0.032 mg/l
PNEC aqua (intermittent, freshwater)	5.12 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	1.7 mg/kg dwt

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<b>2,2',2''-nitrioltriethanol (102-71-6)</b>	
PNEC sediment (marine water)	0.17 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	0.151 mg/kg dwt
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	10 mg/l
<b>propan-2-ol (67-63-0)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - systemic effects, inhalation	1000 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	888 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	500 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, inhalation	178 mg/m <sup>3</sup>
Acute - systemic effects, oral	51 mg/kg bodyweight
Long-term - systemic effects, oral	26 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	89 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	319 mg/kg bodyweight/day

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

### 8.2.2. Personal protection equipment

#### 8.2.2.1. Eye and face protection

##### Eye protection:

Wear closed safety glasses. ISO 16321-1

#### 8.2.2.2. Skin protection

##### Skin and body protection:

Wear suitable protective clothing. EN 13034. EN ISO 13688

##### Hand protection:

In case of repeated or prolonged contact wear gloves. Chemically resistant protective gloves. Nitrile rubber. ISO 374-1. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Please follow the instructions related to the permeability and the penetration time provided by the manufacturer. Gloves must be replaced after each use and whenever signs of wear or perforation appear

#### 8.2.2.3. Respiratory protection

##### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. EN 143. Breathing apparatus with filter. A-P2. Breathing equipment is only to be used in order to handle the residual risk of short term jobs if all other risk minimizing measures have been carried out e.g. retention and/or local exhaust.

#### 8.2.2.4. Thermal hazards

No additional information available

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### 8.2.3. Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

#### Other information:

Do not eat, drink or smoke when using this product. Avoid contact with skin and eyes. Always wash hands after handling the product.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: light blue.
Odour	: aromatic.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: 80 °C
Flammability	: Not applicable
Explosive properties	: Product is not explosive. Explosive vapour/air mixtures may be formed.
Oxidising properties	: Non oxidizing.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: 21 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: 5.5 – 7
Viscosity, kinematic	: Not available
Solubility	: Water: Soluble
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: 5.95 kPa (20 °C)
Vapour pressure at 50°C	: Not available
Density	: 0.8 g/cm <sup>3</sup> (20 °C)
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport. Highly flammable liquid and vapour.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.



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### 10.5. Incompatible materials

Strong oxidizing agent.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)  
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)  
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

#### smarhand Gel

ATE CLP (oral)	> 5000 mg/kg bodyweight
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#### Ethanol

LD50 oral rat	10470 mg/kg bodyweight (OECD 401 method)
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LC50 Inhalation - Rat (Vapours)	124.7 mg/l/4h (OECD 403 method)
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#### 2,2',2"-nitrioltriethanol

LD50 oral rat	6400 mg/kg bodyweight (OECD 401 method)
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LD50 dermal rabbit	> 2000 mg/kg bodyweight (No deaths occurred; méthode OCDE 402)
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LC50 Inhalation - Rat (Dust/Mist)	> 1.8 mg/m <sup>3</sup> (8 h; No deaths occurred; (OECD 403 method))
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#### propan-2-ol

LD50 oral rat	5840 mg/kg bodyweight (OECD 401 method)
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LD50 dermal rabbit	16.4 ml/kg (OECD 402 method)
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LC50 Inhalation - Rat [ppm]	> 10000 ppm (6 h; (OECD 403 method))
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#### Glycerol

LD50 oral rat	27200 mg/kg bodyweight
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LD50 oral	≈ 23000 mg/kg bodyweight (mouse, male)
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LC50 Inhalation - Rat (Vapours)	> 2.75 mg/l/4h
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Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)  
pH: 5.5 – 7

Serious eye damage/irritation : Causes serious eye irritation.  
pH: 5.5 – 7

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

#### propan-2-ol (67-63-0)

STOT-single exposure	May cause drowsiness or dizziness.
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STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

#### 2,2',2"-nitrioltriethanol (102-71-6)

NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight/day (OECD 408 method)
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NOAEL (dermal, rat/rabbit, 90 days)	125 mg/kg bodyweight/day (OECD 411 method)
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### 2,2',2''-nitrioltriethanol (102-71-6)

NOAEC (inhalation, rat, vapour, 90 days)	0.02 mg/l/6h/day (OECD 412 method)
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Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

### 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)

Hazardous to the aquatic environment, long-term (chronic) : Not classified (Based on available data, the classification criteria are not met)

#### Ethanol

LC50 - Fish [1]	14200 mg/l (96 h; Pimephales promelas; US EPA method E03-05)
EC50 - Crustacea [1]	5012 mg/l (48 h; Ceriodaphnia dubia; ASTM E729-80)
ErC50 algae	275 mg/l (72 h, Chlorella vulgaris, (OECD 201 method))
NOEC chronic fish	250 mg/l (120 h, Zebrafish, (OECD 212 method))
NOEC chronic crustacea	2 mg/l (10 d, Ceriodaphnia dubia)

#### 2,2',2''-nitrioltriethanol

LC50 - Fish [1]	11800 mg/l (96 h; Pimephales promelas; APHA Method (1980))
EC50 - Crustacea [1]	609.88 mg/l (48h; Ceriodaphnia dubia; ASTM E1192 (1988))
ErC50 algae	512 mg/l (72 h; Desmodesmus subspicatus; DIN 38412 / 9; neutralized)
NOEC (chronic)	16 mg/l (21 d; Daphnia magna)

#### propan-2-ol

LC50 - Fish [1]	9640 mg/l (96 h; Pimephales promelas; (OECD 203 method))
EC50 - Crustacea [1]	> 10000 mg/l (24 h; Daphnia magna;(OECD 202 method))
ErC50 algae	1800 mg/l (7 d; Scenedesmus quadricauda)
NOEC chronic algae	1800 mg/l (7d; Scenedesmus quadricauda)

#### Glycerol

LC50 - Fish [1]	54000 mg/l (96 h; Oncorhynchus mykiss)
EC50 - Crustacea [1]	1955 mg/l (48 h; Daphnia magna)

### 12.2. Persistence and degradability

#### smarthand Gel

Persistence and degradability	The product has not been tested.
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#### Ethanol (64-17-5)

Persistence and degradability	Readily biodegradable.
Biodegradation	84 % (20 d; Literature data)

#### 2,2',2''-nitrioltriethanol (102-71-6)

Persistence and degradability	Readily biodegradable.
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<b>2,2',2''-nitrilotriethanol (102-71-6)</b>	
Biodegradation	≈ 100 % (5 d)
<b>propan-2-ol (67-63-0)</b>	
Persistence and degradability	Readily biodegradable.
Biodegradation	53 % (5 d ; Test method EU C.5)
<b>Glycerol (56-81-5)</b>	
Persistence and degradability	Readily biodegradable.
Biodegradation	94 % (24 h)

### 12.3. Bioaccumulative potential

<b>smarthand Gel</b>	
Bioaccumulative potential	The product has not been tested.
<b>Ethanol (64-17-5)</b>	
Partition coefficient n-octanol/water (Log Pow)	-0.35 (24 °C; pH 7,4; (OECD 107 method))
Bioaccumulative potential	Bioaccumulation unlikely.
<b>2,2',2''-nitrilotriethanol (102-71-6)</b>	
BCF - Fish [1]	< 0.4 l/kg (Cyprinus carpio; 6 w; 2.5 mg/L; (OECD 305 method))
BCF - Fish [2]	< 3.9 l/kg (Cyprinus carpio; 6 w; 0.25 mg/L; (OECD 305 method))
Partition coefficient n-octanol/water (Log Pow)	-2.3 (25 °C; pH: 7.1)
Bioaccumulative potential	Bioaccumulation unlikely.
<b>propan-2-ol (67-63-0)</b>	
Partition coefficient n-octanol/water (Log Pow)	0.05 (25 °C)
Bioaccumulative potential	Bioaccumulation unlikely.
<b>Glycerol (56-81-5)</b>	
Partition coefficient n-octanol/water (Log Kow)	-1.75 (25 °C; pH 7.4)
Bioaccumulative potential	Bioaccumulation unlikely.

### 12.4. Mobility in soil

<b>smarthand Gel</b>	
Ecology - soil	The product has not been tested.
<b>Ethanol (64-17-5)</b>	
Surface tension	22.31 mN/m (20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	≈ 0.2 (Handbook and/or Scientific papers)
Ecology - soil	Small adsorption.
<b>2,2',2''-nitrilotriethanol (102-71-6)</b>	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.3 – 3.65 (pH 5 - 8; (calculated value))

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propan-2-ol (67-63-0)	
Ecology - soil	Expected to be highly mobile in soil.
Glycerol (56-81-5)	
Surface tension	≈ 63.4 mN/m (20 °C)

### 12.5. Results of PBT and vPvB assessment

Component	
Ethanol (64-17-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
2,2',2"-nitrioltriethanol (102-71-6)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
propan-2-ol (67-63-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Glycerol (56-81-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods	: Disposal must be done according to official regulations. Do not dispose of with domestic waste. Do not discharge into drains or the environment. European waste catalogue.
Product/Packaging disposal recommendations	: Recycle or dispose of in compliance with current legislation.
Additional information	: Flammable vapours may accumulate in the container.
HP Code	: HP3 - "Flammable:" <ul style="list-style-type: none"><li>– flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point &gt; 55 °C and ≤ 75 °C;</li><li>– flammable pyrophoric liquid and solid waste: solid or liquid waste which, even in small quantities, is liable to ignite within five minutes after coming into contact with air;</li><li>– flammable solid waste: solid waste which is readily combustible or may cause or contribute to fire through friction;</li><li>– flammable gaseous waste: gaseous waste which is flammable in air at 20 °C and a standard pressure of 101.3 kPa;</li><li>– water reactive waste: waste which, in contact with water, emits flammable gases in dangerous quantities;</li><li>– other flammable waste: flammable aerosols, flammable self-heating waste, flammable organic peroxides and flammable self-reactive waste.</li></ul>
	HP4 - "Irritant – skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye.






## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

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ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
UN 1987	UN 1987	UN 1987	UN 1987	UN 1987
<b>14.2. UN proper shipping name</b>				
ALCOHOLS, N.O.S. (Ethanol; propan-2-ol)	ALCOHOLS, N.O.S. (Ethanol; propan-2-ol)	Alcohols, n.o.s. (Ethanol; propan-2-ol)	ALCOHOLS, N.O.S. (Ethanol; propan-2-ol)	ALCOHOLS, N.O.S. (Ethanol; propan-2-ol)
<b>Transport document description</b>				
UN 1987 ALCOHOLS, N.O.S. (Ethanol; propan-2- ol), 3, II, (D/E)	UN 1987 ALCOHOLS, N.O.S. (Ethanol; propan-2- ol), 3, II	UN 1987 Alcohols, n.o.s. (Ethanol; propan-2-ol), 3, II	UN 1987 ALCOHOLS, N.O.S. (Ethanol; propan-2- ol), 3, II	UN 1987 ALCOHOLS, N.O.S. (Ethanol; propan-2- ol), 3, II
<b>14.3. Transport hazard class(es)</b>				
3	3	3	3	3
				
<b>14.4. Packing group</b>				
II	II	II	II	II
<b>14.5. Environmental hazards</b>				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR)	: F1
Special provisions (ADR)	: 274, 601, 640D
Limited quantities (ADR)	: 1I
Excepted quantities (ADR)	: E2
Transport category (ADR)	: 2
Hazard identification number (Kemler No.)	: 33
Orange plates	:



Tunnel restriction code (ADR)	: D/E
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#### Transport by sea

Special provisions (IMDG)	: 274
Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-D

#### Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y341
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 353
PCA max net quantity (IATA)	: 5L
CAO max net quantity (IATA)	: 60L

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Special provisions (IATA) : A3, A180

### Inland waterway transport

Classification code (ADN) : F1  
Special provisions (ADN) : 274, 601, 640D  
Limited quantities (ADN) : 1 L  
Excepted quantities (ADN) : E2  
Carriage permitted (ADN) : T  
Additional requirements/Remarks (ADN) :

### Rail transport

Classification code (RID) : F1  
Special provisions (RID) : 274, 601, 640D  
Limited quantities (RID) : 1L  
Excepted quantities (RID) : E2  
Transport category (RID) : 2  
Hazard identification number (RID) : 33

## 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Other information, restriction and prohibition regulations : Take note of Directive 94/33/EC on the protection of young people at work. The additional label requirements of directive EU 528/2012 about the available on the market and use of biocidal products have to be observed. Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products. Every advertisement for biocides has to be accompanied by following sentence: Use biocides safely. Always read the label and product information before use.

#### REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)	
Reference code	Applicable on
3(a)	smarhand Gel ; Ethanol ; propan-2-ol
3(b)	smarhand Gel ; Ethanol ; propan-2-ol
40.	smarhand Gel ; Ethanol ; propan-2-ol

#### REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

#### REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

#### PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

#### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

#### Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

#### Biocide Regulation (528/2012)

Type of product (Biocide) : 1 - Human hygiene

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### Seveso Directive (Disaster Risk Reduction)

Seveso III Part I (Categories of dangerous substances)	Qualifying quantity (tonnes)	
	Lower-tier	Upper-tier
P5c FLAMMABLE LIQUIDS Flammable liquids, Categories 2 or 3 not covered by P5a and P5b	5000	50000

### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

### 15.1.2. National regulations

#### Germany

Employment restrictions	: Employment prohibitions or restrictions on the protection of young people at work according to § 22 JArbSchG in the case of formation of hazardous substances have to be observed.
National Rules and Recommendations	: TRGS 400: Risk Assessment for Activities involving Hazardous Substances. TRGS 510: Storage of hazardous substances in non-stationary containers. TRGS 520: Construction and operation of collection points and temporary storage for small amounts of hazardous waste. TRGS 900: Occupational Exposure Limits. TRGS 903: Biological limit values.
Water hazard class (WGK)	: WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1).
Storage class (LGK, TRGS 510)	: LGK 3 - Flammable liquids.
Hazardous Incident Ordinance (12. BImSchV)	: Listed in the 12. BImSchV (Annex I) under: 1.2.5.3 - Quantity threshold for operational area under § 1 para. 1 - Sentence 1 :5000000 kg - Sentence 2 :50000000 kg

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
	General revision		
14.4	Packing group	Modified	

Abbreviations and acronyms:	
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
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IARC	International Agency for Research on Cancer

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Abbreviations and acronyms:	
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TLM	Median Tolerance Limit
vPvB	Very Persistent and Very Bioaccumulative
CAS-No.	Chemical Abstract Service number

Data sources : Information provided by the manufacturer. European Chemicals Agency, <http://echa.europa.eu/>.

Department issuing data specification sheet: : KFT Chemieservice GmbH  
Im Leuschnerpark 3  
D-64347 Griesheim

Phone: +49 6155-8981-400  
Fax: +49 6155 8981-500  
SDS Service: +49 6155 8981-522

Contact person : Dr. Maximilian Gatterdam

Full text of H- and EUH-statements:	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Flam. Liq. 2	H225	On basis of test data
Eye Irrit. 2	H319	Calculation method

KFT SDS EU 01 - Version 23.1



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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.