

**SORBA**

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name : SORBA  
Design code : A7814K

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

Use of the Substance/Mixture : Insecticide

**1.3 Details of the supplier of the safety data sheet**

Company : Syngenta SA (Pty) Ltd  
P.O. Box 1044, No. 4 Krokodil drift Avenue  
Brits 0250  
South Africa  
  
Telephone : +27 (0)12 2506 300  
  
Telefax : -  
  
E-mail address of person responsible for the SDS : sds.ame@syngenta.com

**1.4 Emergency telephone number**

Emergency telephone number : +27 (0) 82 446 8946 (Griffon)

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**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**


Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Skin irritation, Category 2	H315: Causes skin irritation.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

## SORBA

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H336 May cause drowsiness or dizziness. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	:	P102 Keep out of reach of children.

#### Prevention:

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

#### Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.  
 P331 Do NOT induce vomiting.  
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
 P391 Collect spillage.

#### Storage:

P405 Store locked up.  
 P410 + P403 Protect from sunlight. Store in a well-ventilated place.

#### Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified  
 cyclohexanone  
 lufenuron (ISO)  
 calcium bis(dodecylbenzenesulphonate), branched

## SORBA

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

### 2.3 Other hazards

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

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5 265-198-5 649-424-00-3 01-2119463583-34-xxxx	STOT SE 3; H336 (Central nervous system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 50 - < 70
cyclohexanone	108-94-1 203-631-1 606-010-00-7 01-2119453616-35-xxxx	Flam. Liq. 3; H226 Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318	>= 20 - < 30
lufenuron (ISO)	103055-07-8 410-690-9 616-050-00-7 01-2120892836-35-xxxx	Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 10.000 M-Factor (Chronic aquatic toxicity): 100	>= 2,5 - < 10
calcium bis(dodecylbenzenesulphonate), branched	68953-96-8 273-234-6 01-2119964467-24-xxxx	Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 2; H411	>= 3 - < 10
2-methylpropan-1-ol	78-83-1 201-148-0 603-108-00-1 01-2119484609-23-xxxx	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H336 (Central nervous system) STOT SE 3; H335 (Respiratory system)	>= 1 - < 3
naphthalene	91-20-3 202-049-5	Flam. Sol. 2; H228 Acute Tox. 4; H302	>= 0,25 - < 1

## SORBA

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

	601-052-00-2	Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	
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For explanation of abbreviations see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.
- If inhaled : Move the victim to fresh air.  
If breathing is irregular or stopped, administer artificial respiration.  
Keep patient warm and at rest.  
Call a physician or poison control centre immediately.
- In case of skin contact : Take off all contaminated clothing immediately.  
Wash off immediately with plenty of water.  
If skin irritation persists, call a physician.  
Wash contaminated clothing before re-use.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Remove contact lenses.  
Immediate medical attention is required.
- If swallowed : If swallowed, seek medical advice immediately and show this container or label.  
Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

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

- Symptoms : Aspiration may cause pulmonary oedema and pneumonitis.

#### 4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : There is no specific antidote available.  
Treat symptomatically.  
Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

- Suitable extinguishing media : Extinguishing media - small fires  
Use water spray, alcohol-resistant foam, dry chemical or

## SORBA

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
2.1	26.10.2022	S00029998600	

carbon dioxide.  
Extinguishing media - large fires  
Alcohol-resistant foam

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

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

Specific hazards during firefighting : As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).  
Exposure to decomposition products may be a hazard to health.  
Flash back possible over considerable distance.

### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

Further information : Do not allow run-off from fire fighting to enter drains or water courses.  
Cool closed containers exposed to fire with water spray.

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## SECTION 6: Accidental release measures

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

Personal precautions : Refer to protective measures listed in sections 7 and 8.  
Keep people away from and upwind of spill/leak.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.  
Remove all sources of ignition.  
Pay attention to flashback.

### 6.2 Environmental precautions

Environmental precautions : Prevent further leakage or spillage if safe to do so.  
Do not flush into surface water or sanitary sewer system.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).  
Clean contaminated surface thoroughly.  
Clean with detergents. Avoid solvents.  
Retain and dispose of contaminated wash water.

## SORBA

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

### 6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes.  
When using do not eat, drink or smoke.  
Use only in an area containing flame proof equipment.  
Take precautionary measures against static discharges.  
For personal protection see section 8.

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

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from combustible material. Keep in an area equipped with sprinklers. Keep away from food, drink and animal feedingstuffs. No smoking.

### 7.3 Specific end use(s)

Specific use(s) : For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
cyclohexanone	108-94-1	OEL-RL	40 ppm	ZA OEL
	Further information: danger of cutaneous absorption, Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents			
		OEL- RL STEL/C	100 ppm	ZA OEL
	Further information: danger of cutaneous absorption, Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents			
		TWA	10 ppm 40,8 mg/m <sup>3</sup>	2000/39/EC
		STEL	20 ppm 81,6 mg/m <sup>3</sup>	2000/39/EC
lufenuron (ISO)	103055-07-8	TWA	5 mg/m <sup>3</sup>	Syngenta
2-methylpropan-1-ol	78-83-1	OEL-RL	100 ppm	ZA OEL
	Further information: Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents			
naphthalene	91-20-3	OEL-RL	20 ppm	ZA OEL
	Further information: danger of cutaneous absorption, Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents, denotes carcinogenicity, which is based on GHS categorisation, including category 1A, 1B			

## SORBA

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

		TWA	10 ppm 50 mg/m <sup>3</sup>	91/322/EEC
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### Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
cyclohexanone	108-94-1	1,2-Cyclohexanediol: 80 mg/l (Urine)	End of shift at end of workweek	ZA BEI
		Cyclohexanol: 8 mg/l (Urine)	End of shift	ZA BEI

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

Substance name	End Use	Exposure routes	Potential health effects	Value	
lufenuron (ISO)	Workers	Inhalation	Long-term systemic effects	0,28 mg/m <sup>3</sup>	
	Workers	Dermal	Long-term systemic effects	0,32 mg/kg	
	Consumers	Inhalation	Long-term systemic effects	0,047 mg/m <sup>3</sup>	
	Consumers	Dermal	Long-term systemic effects	0,11 mg/kg	
	Consumers	Oral	Long-term systemic effects	0,019 mg/kg	
	cyclohexanone	Workers	Inhalation	Long-term systemic effects	40 mg/m <sup>3</sup>
Workers		Inhalation	Acute systemic effects	80 mg/m <sup>3</sup>	
Workers		Inhalation	Long-term local effects	40 mg/m <sup>3</sup>	
Workers		Inhalation	Acute local effects	80 mg/m <sup>3</sup>	
Workers		Dermal	Long-term systemic effects	4 mg/kg	
Workers		Dermal	Acute systemic effects	4 mg/kg	
Consumers		Inhalation	Long-term systemic effects	10 mg/m <sup>3</sup>	
Consumers		Inhalation	Acute systemic effects	20 mg/m <sup>3</sup>	
Consumers		Inhalation	Long-term local effects	20 mg/m <sup>3</sup>	
Consumers		Inhalation	Acute local effects	40 mg/m <sup>3</sup>	
Consumers		Dermal	Long-term systemic effects	1 mg/kg	
Consumers		Dermal	Acute systemic effects	1 mg/kg	
Consumers		Oral	Long-term systemic effects	1,5 mg/kg	
Consumers		Oral	Acute systemic effects	1,5 mg/kg	
Solvent naphtha (petroleum), heavy		Workers	Inhalation	Long-term systemic effects	151 mg/m <sup>3</sup>

## SORBA

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

arom.; Kerosine — unspecified				
	Workers	Dermal	Long-term systemic effects	12,5 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	32 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	7,5 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	7,5 mg/kg bw/day
castor oil, ethoxylated	Workers	Inhalation	Long-term systemic effects	16,4 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	4,67 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	2,9 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	1,67 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	1,67 mg/kg bw/day
calcium bis(dodecylbenzenes ulphonate), branched	Workers	Inhalation	Long-term systemic effects	6 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	8,5 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1,48 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	4,25 mg/kg
	Consumers	Oral	Long-term systemic effects	0,43 mg/kg
2-methylpropan-1-ol	Workers	Inhalation	Long-term systemic effects, Long-term local effects	310 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term systemic effects, Long-term local effects	55 mg/m <sup>3</sup>
	Consumers	Oral	Long-term systemic effects, Long-term local effects	25 mg/kg
naphthalene	Workers	Inhalation	Long-term systemic effects	25 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	25 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	3,57 mg/kg

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

Substance name	Environmental Compartment	Value
lufenuron (ISO)	Fresh water	0,00003 mg/l
	Freshwater - intermittent	0,000011 mg/l
	Marine water	0,042 ng/L
	Marine water - intermittent	0,042 ng/L
	Sewage treatment plant	1 mg/l



## SORBA

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

	Fresh water sediment	0,0004 mg/kg
	Marine sediment	0,00004 mg/kg
	Soil	0,0067 mg/kg
	Secondary poisoning	6,67 mg/kg
cyclohexanone	Fresh water	0,033 mg/l
	Freshwater - intermittent	0,329 mg/l
	Marine water	0,003 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	0,249 mg/kg
	Marine sediment	0,025 mg/kg
	Soil	0,03 mg/kg
castor oil, ethoxylated	Fresh water sediment	0,0129 mg/kg dry weight (d.w.)
	Marine sediment	0,00129 mg/kg dry weight (d.w.)
	Soil	0,00258 mg/kg dry weight (d.w.)
calcium bis(dodecylbenzenesulphonate), branched	Fresh water	0,023 mg/l
	Marine water	0,0023 mg/l
	Intermittent use/release	0,29 mg/l
	Fresh water sediment	1,35 mg/kg
	Marine sediment	0,135 mg/kg
	Sewage treatment plant	5,5 mg/kg
	Soil	0,124 mg/kg
2-methylpropan-1-ol	Fresh water	0,4 mg/l
	Sewage treatment plant	10 mg/l
	Soil	0,0699 mg/kg
	Marine sediment	0,152 mg/kg
	Fresh water sediment	1,52 mg/kg
	Marine water	0,04 mg/l
naphthalene	Fresh water	0,0024 mg/l
	Marine water	0,0024 mg/l
	Sewage treatment plant	2,9 mg/l
	Fresh water sediment	0,0672 mg/kg
	Marine sediment	0,0672 mg/kg
	Soil	0,0533 mg/kg

### 8.2 Exposure controls

#### Engineering measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.  
Where necessary, seek additional occupational hygiene advice.

#### Personal protective equipment

Eye/face protection : Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

## SORBA

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

		Tightly fitting safety goggles Face-shield
Hand protection		
Material	:	Nitrile rubber
Break through time	:	> 480 min
Glove thickness	:	0,5 mm
Remarks	:	Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Remove and wash contaminated clothing before re-use. Wear as appropriate: Impervious clothing
Respiratory protection	:	No personal respiratory protective equipment normally required. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Protective measures	:	The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	light yellow to brownish
Odour	:	aromatic
Odour Threshold	:	No data available
pH	:	3 - 7 Concentration: 1 % w/v
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	51 °C

## SORBA

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

Method: Pensky-Martens closed cup

Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	0,933 g/cm <sup>3</sup>
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	440 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	2,85 mPa.s (20 °C) 1,96 mPa.s (40 °C)
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

### 9.2 Other information

Surface tension	:	29,1 mN/m, 20 °C
Particle size	:	No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

None reasonably foreseeable.

### 10.2 Chemical stability

Stable under normal conditions.

**SORBA**

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

**10.3 Possibility of hazardous reactions**

Hazardous reactions : No dangerous reaction known under conditions of normal use.

**10.4 Conditions to avoid**

Conditions to avoid : No decomposition if used as directed.

**10.5 Incompatible materials**

Materials to avoid : None known.

**10.6 Hazardous decomposition products**

Hazardous decomposition products : No hazardous decomposition products are known.

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**SECTION 11: Toxicological information****11.1 Information on toxicological effects**

Information on likely routes of exposure : Ingestion  
Inhalation  
Skin contact  
Eye contact

**Acute toxicity****Product:**

Acute oral toxicity : LD50 (Rat, male and female): > 3.000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat, male and female): > 5,3 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat, male and female): > 4.000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: Based on data from similar materials

**Components:****cyclohexanone:**

Acute oral toxicity : LD50 (Rat): 1.534 mg/kg

Acute inhalation toxicity : LC50 (Rat): 11 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 1.100 mg/kg

**SORBA**

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

**lufenuron (ISO):**

- Acute oral toxicity : LD50 (Rat, female): > 2.000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity
- Acute inhalation toxicity : LC50 (Rat, male and female): > 2.350 mg/m<sup>3</sup>  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

**calcium bis(dodecylbenzenesulphonate), branched:**

- Acute dermal toxicity : LD50 (Rat, male and female): > 1.000 - 1.600 mg/kg

**2-methylpropan-1-ol:**

- Acute oral toxicity : LD50 (Rat): 2.830 - 3.350 mg/kg
- Acute inhalation toxicity : LC50 (Rat): > 24,6 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rabbit): > 2.000 - 2.460 mg/kg

**naphthalene:**

- Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

**Skin corrosion/irritation****Product:**

- Species : Rabbit  
Result : Irritating to skin.  
Remarks : Based on data from similar materials

**Components:****Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

- Result : Repeated exposure may cause skin dryness or cracking.

**cyclohexanone:**

- Species : Rabbit  
Result : Irritating to skin.

**SORBA**

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

**lufenuron (ISO):**

Species : Rabbit  
Result : No skin irritation

**calcium bis(dodecylbenzenesulphonate), branched:**

Result : Irritating to skin.

**2-methylpropan-1-ol:**

Result : Irritating to skin.

**Serious eye damage/eye irritation****Product:**

Species : Rabbit  
Result : Risk of serious damage to eyes.

**Components:****cyclohexanone:**

Species : Rabbit  
Result : Risk of serious damage to eyes.

**lufenuron (ISO):**

Species : Rabbit  
Result : No eye irritation

**calcium bis(dodecylbenzenesulphonate), branched:**

Result : Risk of serious damage to eyes.

**2-methylpropan-1-ol:**

Result : Risk of serious damage to eyes.

**Respiratory or skin sensitisation****Product:**

Test Type : Maximisation Test  
Species : Guinea pig  
Result : May cause sensitisation by skin contact.  
Remarks : Based on data from similar materials

**Components:****lufenuron (ISO):**

Species : Guinea pig  
Result : May cause sensitisation by skin contact.

**2-methylpropan-1-ol:**

Species : Guinea pig

**SORBA**

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

Result : Did not cause sensitisation on laboratory animals.  
Remarks : Information given is based on data obtained from similar substances.

**Germ cell mutagenicity****Components:****lufenuron (ISO):**

Germ cell mutagenicity-  
Assessment : Animal testing did not show any mutagenic effects.

**Carcinogenicity****Components:****lufenuron (ISO):**

Carcinogenicity -  
Assessment : No evidence of carcinogenicity in animal studies.

**naphthalene:**

Carcinogenicity -  
Assessment : Limited evidence of carcinogenicity in animal studies

**Reproductive toxicity****Components:****lufenuron (ISO):**

Reproductive toxicity -  
Assessment : No toxicity to reproduction

**STOT - single exposure****Components:****Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

**2-methylpropan-1-ol:**

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

**STOT - repeated exposure****Components:****lufenuron (ISO):**

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

## SORBA

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

### Aspiration toxicity

#### Components:

#### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

May be fatal if swallowed and enters airways.

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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

#### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

- |   |   |   |
|---|---|---|
| Toxicity to fish                                    | : | LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l<br>Exposure time: 96 h<br>Remarks: Information given is based on data obtained from similar substances.  |
| Toxicity to daphnia and other aquatic invertebrates | : | EL50 (Daphnia magna (Water flea)): 3 - 10 mg/l<br>Exposure time: 48 h<br>Remarks: Information given is based on data obtained from similar substances.  |
| Toxicity to algae/aquatic plants                    | : | EL50 (Raphidocelis subcapitata (freshwater green alga)): > 1 - < 3 mg/l<br>End point: Growth rate<br>Exposure time: 72 h<br>Remarks: Information given is based on data obtained from similar substances. |
| <br>  |   |   |
| <b>lufenuron (ISO):</b>                             |   |   |
| Toxicity to fish                                    | : | LC50 (Lepomis macrochirus (Bluegill sunfish)): > 29 mg/l<br>Exposure time: 96 h   |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 0,0011 mg/l<br>Exposure time: 48 h<br><br>LC50 (Americamysis): 0,000042 mg/l<br>Exposure time: 48 h  |
| M-Factor (Acute aquatic toxicity)                   | : | 10.000  |
| Toxicity to microorganisms                          | : | EC50 (activated sludge): > 100 mg/l<br>Exposure time: 3 h   |
| Toxicity to fish (Chronic toxicity)                 | : | NOEC: 0,069 mg/l<br>Exposure time: 21 d<br>Species: Oncorhynchus mykiss (rainbow trout)   |
| Toxicity to daphnia and other aquatic invertebrates | : | NOEC: 0,0003 mg/l<br>Exposure time: 129 d   |



**SORBA**

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

(Chronic toxicity)      Species: Invertebrates

M-Factor (Chronic aquatic toxicity) : 100

**calcium bis(dodecylbenzenesulphonate), branched:****Ecotoxicology Assessment**

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

**2-methylpropan-1-ol:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1.430 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 1.100 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Raphidocelis subcapitata (freshwater green alga)): 1.799 mg/l  
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 20 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

**naphthalene:****Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

**12.2 Persistence and degradability****Components:****cyclohexanone:**

Biodegradability : Result: Readily biodegradable.

**lufenuron (ISO):**

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life (DT50): 112 d  
Remarks: Product is not persistent.

**2-methylpropan-1-ol:**

Biodegradability : Result: Readily biodegradable.

**SORBA**

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

**12.3 Bioaccumulative potential****Components:****lufenuron (ISO):**

Bioaccumulation : Remarks: Bioaccumulates

Partition coefficient: n-octanol/water : log Pow: 5,12 (25 °C)

**12.4 Mobility in soil****Components:****lufenuron (ISO):**

Distribution among environmental compartments : Remarks: immobile

Stability in soil : Dissipation time: 28 d  
Percentage dissipation: 50 % (DT50)  
Remarks: Product is not persistent.

**12.5 Results of PBT and vPvB assessment****Product:**

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

**Components:****cyclohexanone:**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**lufenuron (ISO):**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**2-methylpropan-1-ol:**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**naphthalene:**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating

## SORBA

Version 2.1      Revision Date: 26.10.2022      SDS Number: S00029998600      This version replaces all previous versions.

(vPvB).

### 12.6 Other adverse effects

**Product:**

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Do not contaminate ponds, waterways or ditches with chemical or used container.  
Do not dispose of waste into sewer.  
Where possible recycling is preferred to disposal or incineration.  
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Empty remaining contents.  
Triple rinse containers.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.

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## SECTION 14: Transport information

### 14.1 UN number

UNRTDG : UN 1993  
IMDG : UN 1993  
IATA : UN 1993

### 14.2 UN proper shipping name

UNRTDG : FLAMMABLE LIQUID, N.O.S.  
(CYCLOHEXANONE, ISOBUTANOL)  
IMDG : FLAMMABLE LIQUID, N.O.S.  
(CYCLOHEXANONE AND ISOBUTANOL)  
IATA : Flammable liquid, n.o.s.  
(CYCLOHEXANONE AND ISOBUTANOL)

### 14.3 Transport hazard class(es)

UNRTDG : 3  
IMDG : 3  
IATA : 3

## SORBA

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
2.1	26.10.2022	S00029998600	

### 14.4 Packing group

#### UNRTDG

Packing group : III  
Labels : 3

#### IMDG

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

#### IATA (Cargo)

Packing instruction (cargo aircraft) : 366  
Packing instruction (LQ) : Y344  
Packing group : III  
Labels : Flammable Liquids

#### IATA (Passenger)

Packing instruction (passenger aircraft) : 355  
Packing instruction (LQ) : Y344  
Packing group : III  
Labels : Flammable Liquids

### 14.5 Environmental hazards

#### IMDG

Marine pollutant : yes

### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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

Not applicable for product as supplied.

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## SECTION 15: Regulatory information

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

#### Other regulations:

None known.

### 15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

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## SECTION 16: Other information

#### Full text of H-Statements

H226 : Flammable liquid and vapour.  
H228 : Flammable solid.

## SORBA

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
2.1	26.10.2022	S00029998600	

H302	: Harmful if swallowed.
H304	: May be fatal if swallowed and enters airways.
H312	: Harmful in contact with skin.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H332	: Harmful if inhaled.
H335	: May cause respiratory irritation.
H336	: May cause drowsiness or dizziness.
H351	: Suspected of causing cancer.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H411	: Toxic to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Asp. Tox.	: Aspiration hazard
Carc.	: Carcinogenicity
Eye Dam.	: Serious eye damage
Flam. Liq.	: Flammable liquids
Flam. Sol.	: Flammable solids
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT SE	: Specific target organ toxicity - single exposure
2000/39/EC	: Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
91/322/EEC	: Europe. Commission Directive 91/322/EEC on establishing indicative limit values
ZA BEI	: South Africa. The Regulations for Hazardous Chemical Agents, Biological Exposure Indices
ZA OEL	: South Africa. The Regulations for Hazardous Chemical Agents, Occupational Exposure Limits
2000/39/EC / TWA	: Limit Value - eight hours
2000/39/EC / STEL	: Short term exposure limit
91/322/EEC / TWA	: Limit Value - eight hours
ZA OEL / OEL-RL	: Occupational Exposure Limit Restricted limit - 8- hour exposure or equivalent (12 hour shifts)
ZA OEL / OEL- RL STEL/C	: Occupational Exposure Limit Restricted limit - Short term occupational exposure limits / ceiling limits

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing

## SORBA

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
2.1	26.10.2022	S00029998600	

Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECl - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

### Further information

#### Classification of the mixture:

Flam. Liq. 3	H226
Skin Irrit. 2	H315
Eye Dam. 1	H318
Skin Sens. 1	H317
STOT SE 3	H336
Asp. Tox. 1	H304
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

#### Classification procedure:

Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Calculation method
Calculation method
Calculation method
Calculation method

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