# PRISTINE® Antibacterial Foam Soap

| Version | Revision Date: | MSDS Number: | Date of last issue: 17.04.2015 |
|---|---|---|---|
| 2.1 | 03.06.2015 | 31760-00006 | Date of first issue: 24.11.2014 |

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

### 1.1 Product identifier

Trade name : PRISTINE® Antibacterial Foam Soap

Product code : N06175

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

Use of the Substance/Mixture : Antibacterial Soap

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

Company : BUNZL UK LTD
Epsom Chase, 1 Hook Road
KT19 8TY Epsom Surrey

Telephone : +44(0) 1908 370 757

### 1.4 Emergency telephone number

+1 703-527-3887

## 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. |
| Serious eye damage, Category 1 | H318: Causes serious eye damage. |
| Acute aquatic toxicity, Category 1 | H400: Very toxic to aquatic life. |
| Chronic aquatic toxicity, Category 1 | H410: Very toxic to aquatic life with long lasting effects. |

**Classification (67/548/EEC, 1999/45/EC)**

| | |
|---|---|
| Irritant | R41: Risk of serious damage to eyes. |
| Dangerous for the environment | R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |

### 2.2 Label elements

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

Hazard pictograms :

Signal word : Danger

Hazard statements :

| | |
|---|---|
| H226 | Flammable liquid and vapour. |
| H318 | Causes serious eye damage. |
| H410 | Very toxic to aquatic life with long lasting effects. |

Precautionary statements :

**Prevention:**

| | |
|---|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P233 | Keep container tightly closed. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |

**Response:**

| | |
|---|---|
| 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 or doctor/ physician. |
| P391 | Collect spillage. |

Hazardous components which must be listed on the label:
Dodecanoic acid

### 2.3 Other hazards

Vapours may form explosive mixture with air.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

**Hazardous components**

| Chemical Name | CAS-No.<br>EC-No.<br>Registration number | Classification (67/548/EEC) | Classification (REGULATION (EC) No 1272/2008) | Concentration (%) |
|---|---|---|---|---|
| Ethanol | 64-17-5<br>200-578-6 | F; R11<br>Xi; R36 | Flam. Liq. 2; H225<br>Eye Irrit. 2; H319 | >= 3 - < 10 |
| Dodecanoic acid | 143-07-7<br>205-582-1 | N; R51/53<br>Xi; R41 | Eye Dam. 1; H318<br>Aquatic Chronic 3; H412 | >= 5 - < 10 |
| Ethanolamine | 141-43-5<br>205-483-3 | C; R34<br>Xn; R20/21/22 | Acute Tox. 4; H302<br>Acute Tox. 4; H332 | >= 2.5 - < 5 |

| | | | | |
|---|---|---|---|---|
| | | | Acute Tox. 4; H312<br>Skin Corr. 1B; H314<br>STOT SE 3; H335<br>Aquatic Chronic 3; H412 | |
| Imidazolium compounds, 1-[2-(carboxymethoxy)ethyl]-1-(carboxymethyl)-4,5-dihydro-2-norcoco alkyl, hydroxides, sodium salts | 68650-39-5<br>272-043-5 | Xi; R41 | Eye Dam. 1; H318 | >= 1 - < 3 |
| l-(+)-Lactic acid | 79-33-4<br>201-196-2 | Xi; R41-R37/38 | Skin Irrit. 2; H315<br>Eye Dam. 1; H318<br>STOT SE 3; H335 | >= 1 - < 3 |
| Triclosan | 3380-34-5<br>222-182-2 | Xi; R36/38<br>N; R50/53 | Skin Irrit. 2; H315<br>Eye Irrit. 2; H319<br>Aquatic Acute 1; H400<br>Aquatic Chronic 1; H410 | >= 0.25 - < 1 |

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : Wash with water and soap as a precaution.
Get medical attention if symptoms occur.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention immediately.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention if symptoms occur.
Rinse mouth thoroughly with water.

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

Risks : Causes serious eye damage.

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

Treatment : Treat symptomatically and supportively.

## SECTION 5: Firefighting measures

**5.1 Extinguishing media**

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

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

Specific hazards during fire-fighting : Do not use a solid water stream as it may scatter and spread fire.
Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NOx)
Metal oxides

**5.3 Advice for firefighters**

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

## SECTION 6: Accidental release measures

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

Personal precautions : Remove all sources of ignition.
Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

### 6.2 Environmental precautions

Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

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

Methods for cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use with local exhaust ventilation.
Use only in an area equipped with explosion proof exhaust ventilation.

Advice on safe handling : Avoid inhalation of vapour or mist.
Do not swallow.
Do not get in eyes.
Avoid prolonged or repeated contact with skin.
Handle in accordance with good industrial hygiene and safety practice.
Non-sparking tools should be used.
Keep container tightly closed.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

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

Requirements for storage areas and containers : Keep in properly labelled containers. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Advice on common storage : Do not store with the following product types:
Strong oxidizing agents
Organic peroxides
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives
Gases

**7.3 Specific end use(s)**

Specific use(s) : No data available

## SECTION 8: Exposure controls/personal protection

**8.1 Control parameters**

**Occupational Exposure Limits**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|---|---|---|---|---|
| Propylene glycol | 57-55-6 | TWA (particles) | 10 mg/m3 | GB EH40 |
| Further information | Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used | | | |
| | | TWA (Total vapour and particles) | 150 ppm<br>474 mg/m3 | GB EH40 |
| Further information | Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used | | | |
| Ethanol | 64-17-5 | TWA | 1,000 ppm<br>1,920 mg/m3 | GB EH40 |
| Further information | Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used | | | |
| Ethanolamine | 141-43-5 | TWA | 1 ppm<br>2.5 mg/m3 | 2006/15/EC |
| Further information | Identifies the possibility of significant uptake through the skin, Indicative | | | |
| | | STEL | 3 ppm<br>7.6 mg/m3 | 2006/15/EC |

| | | | | |
|---|---|---|---|---|
| Further information | Identifies the possibility of significant uptake through the skin, Indicative | | | |
| | | TWA | 1 ppm<br>2.5 mg/m3 | GB EH40 |
| Further information | Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. | | | |
| | | STEL | 3 ppm<br>7.6 mg/m3 | GB EH40 |
| Further information | Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. | | | |

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

Propylene glycol : End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term local effects
Value: 10 mg/m3
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 168 mg/m3
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Long-term local effects
Value: 10 mg/m3
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 50 mg/m3

Ethanol : End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute local effects
Value: 1900 mg/m3
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 343 mg/kg bw/day
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 950 mg/m3
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Acute local effects
Value: 950 mg/m3
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 206 mg/kg bw/day
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 114 mg/m3
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Long-term systemic effects

| | | |
|---|---|---|
| | | Value: 87 mg/kg bw/day |
| Dodecanoic acid | : | End Use: Workers<br>Exposure routes: Inhalation<br>Potential health effects: Long-term systemic effects<br>Value: 17.632 mg/m3<br>End Use: Workers<br>Exposure routes: Skin contact<br>Potential health effects: Long-term systemic effects<br>Value: 10 mg/kg bw/day<br>End Use: Consumers<br>Exposure routes: Inhalation<br>Potential health effects: Long-term systemic effects<br>Value: 4.348 mg/m3<br>End Use: Consumers<br>Exposure routes: Skin contact<br>Potential health effects: Long-term systemic effects<br>Value: 5 mg/kg bw/day<br>End Use: Consumers<br>Value: 2.5 mg/kg bw/day |
| Ethanolamine | : | End Use: Workers<br>Exposure routes: Inhalation<br>Potential health effects: Long-term local effects<br>Value: 3.3 mg/m3<br>End Use: Workers<br>Exposure routes: Skin contact<br>Potential health effects: Long-term systemic effects<br>Value: 1 mg/kg bw/day<br>End Use: Consumers<br>Exposure routes: Inhalation<br>Potential health effects: Long-term local effects<br>Value: 2 mg/m3<br>End Use: Consumers<br>Exposure routes: Skin contact<br>Potential health effects: Long-term systemic effects<br>Value: 0.24 mg/kg bw/day<br>End Use: Consumers<br>Exposure routes: Ingestion<br>Potential health effects: Long-term systemic effects<br>Value: 3.75 mg/kg bw/day |
| l-(+)-Lactic acid | : | End Use: Workers<br>Exposure routes: Inhalation<br>Potential health effects: Acute local effects<br>Value: 592 mg/m3<br>End Use: Consumers<br>Exposure routes: Inhalation<br>Potential health effects: Acute local effects<br>Value: 296 mg/m3<br>End Use: Consumers<br>Exposure routes: Ingestion<br>Potential health effects: Acute systemic effects<br>Value: 35.4 mg/kg bw/day |
| Triclosan | : | End Use: Workers<br>Exposure routes: Inhalation<br>Potential health effects: Long-term systemic effects |

Value: 3 mg/m3
End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 2.8 mg/kg bw/day

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

Propylene glycol : Fresh water
Value: 260 mg/l
Marine water
Value: 26 mg/l
Intermittent use/release
Value: 183 mg/l
Sewage treatment plant
Value: 20000 mg/l
Fresh water sediment
Value: 572 mg/kg
Marine sediment
Value: 57.2 mg/kg
Soil
Value: 50 mg/kg

Ethanol : Fresh water
Value: 0.96 mg/l
Marine water
Value: 0.79 mg/l
Intermittent use/release
Value: 2.75 mg/l
Sewage treatment plant
Value: 580 mg/l
Fresh water sediment
Value: 3.6 mg/kg
Marine sediment
Value: 2.9 mg/kg
Soil
Value: 0.63 mg/kg
Oral
Value: 720 mg/kg

Dodecanoic acid : Fresh water
Value: 0.047 mg/l
Marine water
Value: 0.0047 mg/l
Intermittent use/release
Value: 0.036 mg/l
Sewage treatment plant
Value: 912 mg/l
Fresh water sediment
Value: 4.09 mg/kg
Marine sediment
Value: 0.409 mg/kg
Soil
Value: 0.7906 mg/kg

Ethanolamine : Fresh water
Value: 0.085 mg/l
Marine water

Value: 0.0085 mg/l
Intermittent use/release
Value: 0.028 mg/l
Sewage treatment plant
Value: 100 mg/l
Fresh water sediment
Value: 0.434 mg/kg
Marine sediment
Value: 0.0434 mg/kg
Soil
Value: 0.0367 mg/kg

l-(+)-Lactic acid : Fresh water
Value: 1.3 mg/l
Sewage treatment plant
Value: 10 mg/l

Triclosan : Fresh water
Value: 0.00007 mg/l
Marine water
Value: 0.0069 µg/l
Intermittent use/release
Value: 0.000016 mg/l
Sewage treatment plant
Value: 0.11 mg/l
Fresh water sediment
Value: 1 mg/kg
Marine sediment
Value: 0.1 mg/kg
Soil
Value: 0.196 mg/kg

**8.2 Exposure controls**

**Engineering measures**

Minimize workplace exposure concentrations.
Use only in an area equipped with explosion proof exhaust ventilation.
Use with local exhaust ventilation.

**Personal protective equipment**

Eye protection : Wear the following personal protective equipment:
Chemical resistant goggles must be worn.
If splashes are likely to occur, wear:
Face-shield

Hand protection
Material : Impervious gloves
Flame retardant gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

| | | |
|---|---|---|
| Skin and body protection | : | Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.<br>Wear the following personal protective equipment:<br>Flame retardant antistatic protective clothing.<br>Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc). |
| Respiratory protection | : | Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. |
| Filter type | : | Combined particulates and organic vapour type (A-P) |

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| Appearance | : | liquid |
| Colour | : | clear, Colorless to pale yellow |
| Odour | : | slight alcoholic |
| Odour Threshold | : | No data available |
| pH | : | 7.8 - 9.7 |
| Melting point/freezing point | : | No data available |
| Initial boiling point and boiling range | : | No data available |
| Flash point | : | 56.00 °C |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | Not applicable |
| Upper explosion limit | : | No data available |
| Lower explosion limit | : | No data available |
| Vapour pressure | : | No data available |
| Relative vapour density | : | No data available |
| Density | : | 1.00 g/cm3 |
| Solubility(ies) | | |
| Water solubility | : | soluble |

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | Not applicable |
| Auto-ignition temperature | : | No data available |
| Decomposition temperature | : | The substance or mixture is not classified self-reactive. |
| Viscosity | | |
| Viscosity, kinematic | : | 10 - 20 mm2/s (20.00 °C) |
| Explosive properties | : | Not explosive |
| Oxidizing properties | : | The substance or mixture is not classified as oxidizing. |

**9.2 Other information**

No data available

## SECTION 10: Stability and reactivity

**10.1 Reactivity**

Not classified as a reactivity hazard.

**10.2 Chemical stability**

Stable under normal conditions.

**10.3 Possibility of hazardous reactions**

Hazardous reactions : Flammable liquid and vapour.
Vapours may form explosive mixture with air.
Can react with strong oxidizing agents.

**10.4 Conditions to avoid**

Conditions to avoid : Heat, flames and sparks.

**10.5 Incompatible materials**

Materials to avoid : Oxidizing agents

**10.6 Hazardous decomposition products**

No hazardous decomposition products are known.

## SECTION 11: Toxicological information

**11.1 Information on toxicological effects**

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

**Acute toxicity**

Not classified based on available information.

**Product:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate: > 2,000 mg/kg<br>Method: Calculation method |
| Acute inhalation toxicity | : | Acute toxicity estimate: > 20 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: Calculation method |
| Acute dermal toxicity | : | Acute toxicity estimate: > 2,000 mg/kg<br>Method: Calculation method |

**Components:**

**Ethanol:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 5,000 mg/kg |
| Acute inhalation toxicity | : | LC50 (Rat): 124.7 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour |

**Dodecanoic acid:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 5,000 mg/kg<br>Method: OECD Test Guideline 401 |
| Acute inhalation toxicity | : | LC50 (Rat): > 0.162 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Remarks: Based on data from similar materials |
| Acute dermal toxicity | : | LD50 (Rabbit): > 2,000 mg/kg<br>Assessment: The substance or mixture has no acute dermal toxicity<br>Remarks: Based on data from similar materials |

**Ethanolamine:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 1,515 mg/kg |
| Acute inhalation toxicity | : | Acute toxicity estimate: 11 mg/l<br>Test atmosphere: vapour<br>Method: Expert judgement<br>Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI |
| Acute dermal toxicity | : | LD50 (Rabbit): 1,025 mg/kg |

**Imidazolium compounds, 1-[2-(carboxymethoxy)ethyl]-1-(carboxymethyl)-4,5-dihydro-2-norcoco alkyl, hydroxides, sodium salts:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat, male): > 5,000 mg/kg<br>Remarks: Based on data from similar materials |

| | | |
|---|---|---|
| Acute dermal toxicity | : | LD50 (Rat): > 5,000 mg/kg<br>Method: OECD Test Guideline 402<br>Remarks: Based on data from similar materials |

**l-(+)-Lactic acid:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat, female): 3,543 mg/kg |
| Acute inhalation toxicity | : | LC50 (Rat): > 7.94 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: OECD Test Guideline 403 |
| Acute dermal toxicity | : | LD50 (Rabbit): > 2,000 mg/kg |

**Triclosan:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 5,000 mg/kg<br>Method: OECD Test Guideline 401 |
| Acute dermal toxicity | : | LD50 (Rabbit): > 6,000 mg/kg |

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Result: No skin irritation

**Components:**

**Ethanol:**
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

**Dodecanoic acid:**
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

**Ethanolamine:**
Species: Rabbit
Result: Corrosive after 3 minutes to 1 hour of exposure

**Imidazolium compounds, 1-[2-(carboxymethoxy)ethyl]-1-(carboxymethyl)-4,5-dihydro-2-norcoco alkyl, hydroxides, sodium salts:**
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
Remarks: Based on data from similar materials

**l-(+)-Lactic acid:**
Species: Rabbit
Result: Skin irritation

**Triclosan:**
Species: Rabbit
Method: Draize Test
Result: Skin irritation

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Components:**

**Ethanol:**
Species: Rabbit
Method: OECD Test Guideline 405
Result: Irritation to eyes, reversing within 21 days

**Dodecanoic acid:**
Species: Rabbit
Method: OECD Test Guideline 405
Result: Irreversible effects on the eye

**Ethanolamine:**
Species: Rabbit
Result: Irreversible effects on the eye

**Imidazolium compounds, 1-[2-(carboxymethoxy)ethyl]-1-(carboxymethyl)-4,5-dihydro-2-norcoco alkyl, hydroxides, sodium salts:**
Species: Rabbit
Method: OECD Test Guideline 405
Result: Irreversible effects on the eye
Remarks: Based on data from similar materials

**l-(+)-Lactic acid:**
Species: Chicken eye
Result: Irreversible effects on the eye

**Triclosan:**
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

**Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.

**Product:**

Assessment: Does not cause skin sensitisation.

**Components:**

**Ethanol:**
Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Result: negative

**Dodecanoic acid:**
Test Type: Maximisation Test (GPMT)
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

**Ethanolamine:**
Test Type: Maximisation Test (GPMT)
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

**Imidazolium compounds, 1-[2-(carboxymethoxy)ethyl]-1-(carboxymethyl)-4,5-dihydro-2-norcoco alkyl, hydroxides, sodium salts:**
Test Type: Maximisation Test (GPMT)
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative
Remarks: Based on data from similar materials

**l-(+)-Lactic acid:**
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

**Triclosan:**
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

**Ethanol:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: Ingestion
Result: negative

**Dodecanoic acid:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: Based on data from similar materials

**Ethanolamine:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

**Imidazolium compounds, 1-[2-(carboxymethoxy)ethyl]-1-(carboxymethyl)-4,5-dihydro-2-norcoco alkyl, hydroxides, sodium salts:**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative
Remarks: Based on data from similar materials

: Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

: Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: Based on data from similar materials

**l-(+)-Lactic acid:**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Metabolic activation: with and without metabolic activation
Result: negative
Remarks: Based on data from similar materials

: Test Type: Bacterial reverse mutation assay (AMES)
Metabolic activation: with and without metabolic activation
Result: negative

**Triclosan:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

: Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: Equivocal

: Test Type: In vitro mammalian cell gene mutation test
Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 475

Result: negative

**Carcinogenicity**

Not classified based on available information.

**Components:**

**l-(+)-Lactic acid:**
Species: Rat
Application Route: Ingestion
Exposure time: 2 Years
Result: negative
Remarks: Based on data from similar materials

**Triclosan:**
Species: Rat
Application Route: Ingestion
Exposure time: 2 Years
Method: OECD Test Guideline 453
Result: negative

**Reproductive toxicity**

Not classified based on available information.

**Components:**

**Ethanol:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Two-generation reproduction toxicity study<br>Species: Mouse<br>Application Route: Ingestion<br>Method: OECD Test Guideline 416<br>Result: negative |

**Dodecanoic acid:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 422<br>Result: negative<br>Remarks: Based on data from similar materials |
| Effects on foetal development | : | Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 422<br>Result: negative<br>Remarks: Based on data from similar materials |

**Ethanolamine:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Two-generation reproduction toxicity study<br>Species: Rat<br>Application Route: Ingestion<br>Result: negative |

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative

**Triclosan:**
Effects on fertility : Test Type: Two-generation study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Ingestion
Result: negative

Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

**STOT - single exposure**

Not classified based on available information.

**Components:**

**Ethanolamine:**
Assessment: May cause respiratory irritation.

**l-(+)-Lactic acid:**
Assessment: May cause respiratory irritation.

**STOT - repeated exposure**

Not classified based on available information.

**Components:**

**Ethanolamine:**
Exposure routes: inhalation (dust/mist/fume)
Assessment: No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.

**Repeated dose toxicity**

**Components:**

**Ethanol:**
Species: Rat
NOAEL: 2,400 mg/kg
Application Route: Ingestion
Exposure time: 2 y

**Dodecanoic acid:**

Species: Rat
NOAEL: 10,000 mg/kg
Application Route: Ingestion
Exposure time: 18 w

**Ethanolamine:**
Species: Rat
NOAEL: 150 mg/m3
Application Route: inhalation (dust/mist/fume)
Exposure time: 28 d

**Imidazolium compounds, 1-[2-(carboxymethoxy)ethyl]-1-(carboxymethyl)-4,5-dihydro-2-norcoco alkyl, hydroxides, sodium salts:**
Species: Rat, female
NOAEL: 250 mg/kg
LOAEL: 500 mg/kg
Application Route: Ingestion
Exposure time: 28 d
Remarks: Based on data from similar materials

**l-(+)-Lactic acid:**
Species: Rat
NOAEL: >= 886 mg/kg
Application Route: Skin contact
Exposure time: 13 w

**Triclosan:**
Species: Rat
NOAEL: 33 mg/kg
LOAEL: 107 mg/kg
Application Route: Ingestion
Exposure time: 2 y

Species: Rat
NOAEL: >= 80 mg/kg
Application Route: Skin contact
Exposure time: 90 d

**Aspiration toxicity**

Not classified based on available information.

## SECTION 12: Ecological information

### 12.1 Toxicity

**Components:**

**Ethanol:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 1,000 mg/l<br>Exposure time: 48 h |

| | | |
|---|---|---|
| Toxicity to algae | : | EC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |
| Toxicity to bacteria | : | EC50 (Photobacterium phosphoreum): 32.1 mg/l<br>Exposure time: 0.25 h |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 9.6 mg/l<br>Exposure time: 9 d<br>Species: Daphnia magna (Water flea) |

**Dodecanoic acid:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oryzias latipes (Japanese medaka)): 5 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 3.6 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to algae | : | EC50 (Selenastrum capricornutum (green algae)): > 7.6 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201<br>Remarks: No toxicity at the limit of solubility<br><br>NOEC (Selenastrum capricornutum (green algae)): > 7.6 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201<br>Remarks: No toxicity at the limit of solubility |
| Toxicity to bacteria | : | EC10 (Pseudomonas putida): > 1,000 mg/l<br>Exposure time: 30 min<br>Method: OECD Test Guideline 209 |
| Toxicity to fish (Chronic toxicity) | : | NOEC: 2 mg/l<br>Exposure time: 28 d<br>Species: Danio rerio (zebra fish)<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 0.47 mg/l<br>Exposure time: 21 d<br>Species: Daphnia magna (Water flea)<br>Method: OECD Test Guideline 211 |

**Ethanolamine:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Cyprinus carpio (Carp)): 349 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 65 mg/l<br>Exposure time: 48 h |
| Toxicity to algae | : | ErC50 (Selenastrum capricornutum (green algae)): 2.8 mg/l<br>Exposure time: 72 h |

NOEC (Scenedesmus capricornutum (fresh water algae)): 1 mg/l
Exposure time: 72 h

Toxicity to bacteria : EC50 (Pseudomonas putida): 110 mg/l
Exposure time: 17 h

Toxicity to fish (Chronic toxicity) : NOEC: 1.24 mg/l
Exposure time: 41 d
Species: Oryzias latipes (Orange-red killifish)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.85 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

**Imidazolium compounds, 1-[2-(carboxymethoxy)ethyl]-1-(carboxymethyl)-4,5-dihydro-2-norcoco alkyl, hydroxides, sodium salts:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4.2 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 17.9 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae : NOEC (Pseudokirchneriella subcapitata (green algae)): 3.2 mg/l
Exposure time: 72 h
Method: Directive 67/548/EEC, Annex V, C.3.
Remarks: Based on data from similar materials

ErC50 (Pseudokirchneriella subcapitata (green algae)): 10 mg/l
Exposure time: 72 h
Method: Directive 67/548/EEC, Annex V, C.3.
Remarks: Based on data from similar materials

**l-(+)-Lactic acid:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 130 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 250 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : NOEC (Selenastrum capricornutum (fresh water algae)): 1.9 g/l
Exposure time: 72 h
Method: OECD Test Guideline 201

EC50 (Selenastrum capricornutum (fresh water algae)): 3.5 g/l

Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to bacteria : EC50 : > 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

**Triclosan:**

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): 0.54 mg/l
Exposure time: 96 h
Method: Directive 67/548/EEC, Annex V, C.1.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.191 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : NOEC (Desmodesmus subspicatus (green algae)): 0.69 µg/l
Exposure time: 96 h

EC50 (Desmodesmus subspicatus (green algae)): 1.61 µg/l
Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : 100

Toxicity to bacteria : EC50 : 11 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Toxicity to fish (Chronic toxicity) : NOEC: 0.034 mg/l
Exposure time: 96 d
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.026 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 100

### 12.2 Persistence and degradability

**Components:**

**Ethanol:**

Biodegradability : Result: Readily biodegradable
Biodegradation: 84 %
Exposure time: 20 d

**Dodecanoic acid:**

Biodegradability : Result: Readily biodegradable
Biodegradation: 86 %
Exposure time: 30 d
Method: OECD Test Guideline 301D

**Ethanolamine:**

Biodegradability : Result: Readily biodegradable
Biodegradation: > 90 %
Exposure time: 21 d

**Imidazolium compounds, 1-[2-(carboxymethoxy)ethyl]-1-(carboxymethyl)-4,5-dihydro-2-norcoco alkyl, hydroxides, sodium salts:**

Biodegradability : Result: Readily biodegradable
Biodegradation: 79 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

**l-(+)-Lactic acid:**

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 67 %
Exposure time: 20 d

**Triclosan:**

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 18 - 37 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Result: Inherently biodegradable.
Biodegradation: 99.4 %
Exposure time: 14 d
Method: OECD Test Guideline 302B

Result: Not readily biodegradable.
Biodegradation: 18.6 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

### 12.3 Bioaccumulative potential

**Components:**

**Ethanol:**

Partition coefficient: n-octanol/water : log Pow: -0.35

**Dodecanoic acid:**

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 234 - 288
Remarks: Based on data from similar materials

Partition coefficient: n-octanol/water : Pow: 4.6

**Ethanolamine:**

Partition coefficient: n-octanol/water : log Pow: -1.91

**l-(+)-Lactic acid:**
Partition coefficient: n-octanol/water : log Pow: -0.6

**Triclosan:**
Bioaccumulation : Species: Zebrafish
Bioconcentration factor (BCF): 2,532 - 4,157
Method: OECD Test Guideline 305C

Partition coefficient: n-octanol/water : log Pow: 4.8

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

Not relevant

### 12.6 Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

Contaminated packaging : Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not burn, or use a cutting torch on, the empty drum.

## SECTION 14: Transport information

### 14.1 UN number

**ADN** : UN 1170

**ADR** : UN 1170

**RID** : UN 1170

**IMDG** : UN 1170

**IATA** : UN 1170

### 14.2 UN proper shipping name

**ADN** : ETHYL ALCOHOL SOLUTION

| | | |
|---|---|---|
| **ADR** | : | ETHYL ALCOHOL SOLUTION |
| **RID** | : | ETHYL ALCOHOL SOLUTION |
| **IMDG** | : | ETHYL ALCOHOL SOLUTION (Triclosan) |
| **IATA** | : | Ethanol solution |

**14.3 Transport hazard class(es)**

| | | |
|---|---|---|
| **ADN** | : | 3 |
| **ADR** | : | 3 |
| **RID** | : | 3 |
| **IMDG** | : | 3 |
| **IATA** | : | 3 |

**14.4 Packing group**

**ADN**

| | | |
|---|---|---|
| Packing group | : | III |
| Classification Code | : | F1 |
| Hazard Identification Number | : | 30 |
| Labels | : | 3 |

**ADR**

| | | |
|---|---|---|
| Packing group | : | III |
| Classification Code | : | F1 |
| Hazard Identification Number | : | 30 |
| Labels | : | 3 |
| Tunnel restriction code | : | (D/E) |

**RID**

| | | |
|---|---|---|
| Packing group | : | III |
| Classification Code | : | F1 |
| Hazard Identification Number | : | 30 |
| Labels | : | 3 |

**IMDG**

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

**IATA**

| | | |
|---|---|---|
| Packing instruction (cargo aircraft) | : | 366 |
| Packing instruction (passenger aircraft) | : | 355 |
| Packing instruction (LQ) | : | Y344 |
| Packing group | : | III |
| Labels | : | Flammable Liquids |

**14.5 Environmental hazards**

**ADN**

| | | |
|---|---|---|
| Environmentally hazardous | : | yes |

**ADR**
Environmentally hazardous : yes

**RID**
Environmentally hazardous : yes

**IMDG**
Marine pollutant : yes

**14.6 Special precautions for user**

Not applicable

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Remarks : Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

| | | Quantity 1 | Quantity 2 |
|---|---|---|---|
| 9a | Dangerous for the environment | 100 t | 200 t |

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

| | | | |
|---|---|---|---|
| E1 | ENVIRONMENTAL HAZARDS | 100 t | 200 t |
| P5c | FLAMMABLE LIQUIDS | 5,000 t | 50,000 t |
| 34 | Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alterna- | 2,500 t | 25,000 t |

tive fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Volatile organic compounds (VOC) content: 15 %

**The components of this product are reported in the following inventories:**

AICS : All ingredients listed or exempt.

**Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

**Full text of R-Phrases**

| | | |
|---|---|---|
| R11 | : | Highly flammable. |
| R20/21/22 | : | Harmful by inhalation, in contact with skin and if swallowed. |
| R34 | : | Causes burns. |
| R36 | : | Irritating to eyes. |
| R36/38 | : | Irritating to eyes and skin. |
| R37/38 | : | Irritating to respiratory system and skin. |
| R41 | : | Risk of serious damage to eyes. |
| R50/53 | : | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R51/53 | : | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |

**Full text of H-Statements**

| | | |
|---|---|---|
| H225 | : | Highly flammable liquid and vapour. |
| H302 | : | Harmful if swallowed. |
| H312 | : | Harmful in contact with skin. |
| H314 | : | Causes severe skin burns and eye damage. |
| H315 | : | Causes skin irritation. |
| H318 | : | Causes serious eye damage. |
| H319 | : | Causes serious eye irritation. |
| H332 | : | Harmful if inhaled. |
| H335 | : | May cause respiratory irritation. |
| H400 | : | Very toxic to aquatic life. |
| H410 | : | Very toxic to aquatic life with long lasting effects. |

| | | |
|---|---|---|
| H412 | : | Harmful to aquatic life with long lasting effects. |

**Full text of other abbreviations**

| | | |
|---|---|---|
| Acute Tox. | : | Acute toxicity |
| Aquatic Acute | : | Acute aquatic toxicity |
| Aquatic Chronic | : | Chronic aquatic toxicity |
| Eye Dam. | : | Serious eye damage |
| Eye Irrit. | : | Eye irritation |
| Flam. Liq. | : | Flammable liquids |
| Skin Corr. | : | Skin corrosion |
| Skin Irrit. | : | Skin irritation |
| STOT SE | : | Specific target organ toxicity - single exposure |
| 2006/15/EC | : | Europe. Indicative occupational exposure limit values |
| GB EH40 | : | UK. EH40 WEL - Workplace Exposure Limits |
| 2006/15/EC / TWA | : | Limit Value - eight hours |
| 2006/15/EC / STEL | : | Short term exposure limit |
| GB EH40 / TWA | : | Long-term exposure limit (8-hour TWA reference period) |
| GB EH40 / STEL | : | Short-term exposure limit (15-minute reference period) |

**Further information**

| | | |
|---|---|---|
| Sources of key data used to compile the Safety Data Sheet | : | Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/ |

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

GB / EN