

# SAFETY DATA SHEET

## Korsolex plus

Version 1.2      Revision Date: 14.02.2017      SDS Number: R11082      Date of last issue: 26.10.2016  
Date of first issue: 29.04.2014

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Korsorex plus

#### Manufacturer or supplier's details

Manufacturer : BODE Chemie GmbH  
Melanchthonstraße 27  
22525 Hamburg  
Tel.: +49 (0)40 / 54 00 60

Supplier :

Responsible Department : Scientific Affairs  
KundenService-SiDa@bode-chemie.de

Emergency telephone number : Giftnotruf Göttingen  
24h-Phone +49 (0)551 / 1 92 40

#### Recommended use of the chemical and restrictions on use

Recommended use : In-door use  
Disinfectants and general biocidal products  
For further information, refer to the product technical data sheet.

Restrictions on use : Restricted to professional users.

### 2. HAZARDS IDENTIFICATION

#### GHS Classification

Flammable liquids : Category 3  
Acute toxicity (Oral) : Category 4  
Skin corrosion : Category 1A  
Acute aquatic toxicity : Category 1  
Chronic aquatic toxicity : Category 2

#### GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P273 Avoid release to the environment.

#### Prevention:

P280 Wear protective gloves/ protective clothing/ eye protection/ face

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protection.

**Response:**

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

**Disposal:**

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

**Other hazards which do not result in classification**

None known.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Hazardous components**

Chemical name	CAS-No.	Concentration (% w/w)
Didecyldimethylammonium chloride	7173-51-5	>= 10 - < 20
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	>= 1 - < 10
Propan-2-ol	67-63-0	>= 1 - < 10
ethanediol	ethylene glycol	>= 1 - < 10
Alcohols, C12-14. ethoxylated	68439-50-9	>= 1 - < 10
Tridecanol, branched, ethoxylated	69011-36-5	>= 1 - < 10
Fatty acids, C8-10, compds. with 2,2'-[[3-[(2-hydroxyethyl)amino]propyl]imino]bis[ethanol] N-(C14-18 and C16-18-unsatd. alkyl) deriv	95465-87-5	>= 1 - < 10

**4. FIRST AID MEASURES**

General advice : Call a physician immediately.

If inhaled : If fumes from reactions are inhaled, move to fresh air immediately.

In case of skin contact : Take off contaminated clothing and shoes immediately. Wash off with plenty of water.

In case of eye contact : Rinse immediately with plenty of lukewarm water, also under the eyelids, for at least 15 minutes.

If swallowed : Rinse mouth. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed : None known.

Notes to physician : For specialist advice physicians should contact the Poisons Information Service.

**5. FIREFIGHTING MEASURES**

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Hazardous combustion products : No hazardous combustion products are known

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- Specific extinguishing methods : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : Use personal protective equipment.  
In the event of fire, wear self-contained breathing apparatus.

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### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Ensure adequate ventilation.
- Environmental precautions : Should not be released into the environment.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

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### 7. HANDLING AND STORAGE

- Advice on safe handling : Prepare the working solution as given on the label(s) and/or the user instructions.
- Conditions for safe storage : Store at room temperature in the original container.  
Keep tightly closed.
- Materials to avoid : Keep away from food and drink.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

#### Personal protective equipment

##### Hand protection

##### In case of full contact: Nitrile rubber

- Material : Protective gloves complying with EN 374.
- Break through time : > 480 min
- Glove thickness : 0,1 mm
- Protective index : Class 6  
: Peha-soft nitrile guard
- Eye protection : Tightly fitting safety goggles
- Skin and body protection : Lightweight protective clothing
- Protective measures : Ensure that eye flushing systems and safety showers are located close to the working place.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.  
Avoid contact with the skin and the eyes.  
Keep away from food and drink.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Colour : greenish-blue

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Odour	:	pleasant
pH	:	9,5 (20 °C)
Melting point/range	:	not determined
Boiling point/boiling range	:	not determined
Flash point	:	44 °C Method: DIN 51755 Part 1
Flammability (solid, gas)	:	not auto-flammable
Vapour pressure	:	No data available
Density	:	1,01 g/cm <sup>3</sup> (20 °C)
Solubility(ies) Water solubility	:	completely miscible

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### 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	None reasonably foreseeable.
Conditions to avoid	:	Heat Strong sunlight for prolonged periods.
Incompatible materials	:	aldehydes Anionic surfactants

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### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

##### Components:

##### **Didecyldimethylammonium chloride (CAS: 7173-51-5):**

Acute oral toxicity : LD50 Oral (Rat): 238 mg/kg  
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 Dermal (Rabbit): 3.342 mg/kg

##### **N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS: 2372-82-9):**

Acute oral toxicity : LD50 Oral (Rat): 261 mg/kg  
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 Dermal (Rat): > 600 mg/kg  
Method: OECD Test Guideline 402

##### **Propan-2-ol (CAS: 67-63-0):**

Acute oral toxicity : LD50 Oral (Rat): > 2.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 20 mg/l  
Exposure time: 8 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 Dermal (Rabbit): > 2.000 mg/kg

**Korsolex plus****ethanediol (CAS: 107-21-1):**

Acute dermal toxicity : LD50 Dermal (Rabbit): 9.250 mg/kg

**Alcohols, C12-14. ethoxylated (CAS: 68439-50-9):**

Acute oral toxicity : LD50 Oral (Rat): 2.000 mg/kg

**Tridecanol, branched, ethoxylated (CAS: 69011-36-5):**

Acute oral toxicity : LD50 Oral (Rat): > 5.000 mg/kg  
Method: Expert judgement

Acute dermal toxicity : LD50 Dermal (Rabbit): > 2.000 mg/kg  
Method: Expert judgement

**Skin corrosion/irritation****Components:****Didcyldimethylammonium chloride (CAS: 7173-51-5):**

Species: Rabbit  
Exposure time: 3 min  
Method: OECD Test Guideline 404  
Result: Corrosive after 3 minutes or less of exposure

**N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS: 2372-82-9):**

Species: Rabbit  
Exposure time: 3 min  
Method: OECD Test Guideline 404  
Result: Corrosive after 3 minutes or less of exposure

**Propan-2-ol (CAS: 67-63-0):**

Species: Rabbit  
Result: No skin irritation

**ethanediol (CAS: 107-21-1):**

Result: No skin irritation

**Alcohols, C12-14. ethoxylated (CAS: 68439-50-9):**

Result: Repeated exposure may cause skin dryness or cracking.

**Tridecanol, branched, ethoxylated (CAS: 69011-36-5):**

Species: Rabbit  
Result: No skin irritation

**Fatty acids, C8-10, compds. with 2,2'-[[3-[(2-hydroxyethyl)amino]propyl]imino]bis[ethanol] N-(C14-18 and C16-18-unsatd. alkyl) deriv (CAS: 95465-87-5):**

Species: Rabbit  
Result: Skin irritation

**Serious eye damage/eye irritation****Components:****Propan-2-ol (CAS: 67-63-0):**

Species: Rabbit  
Result: Eye irritation

**Alcohols, C12-14. ethoxylated (CAS: 68439-50-9):**

Result: Irreversible effects on the eye

**Tridecanol, branched, ethoxylated (CAS: 69011-36-5):**

Species: Rabbit  
Method: OECD Test Guideline 437  
Result: Risk of serious damage to eyes.

**Fatty acids, C8-10, compds. with 2,2'-[[3-[(2-hydroxyethyl)amino]propyl]imino]bis[ethanol] N-(C14-18 and C16-18-unsatd. alkyl) deriv (CAS: 95465-87-5):**

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Species: Rabbit  
Result: Eye irritation

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

Result: Does not cause skin sensitisation.

Result: Does not cause respiratory sensitisation.

**Components:****N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS: 2372-82-9):**

Test Type: Buehler Test

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Did not cause sensitisation on laboratory animals.

**Propan-2-ol (CAS: 67-63-0):**

Test Type: Buehler Test

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

**Tridecanol, branched, ethoxylated (CAS: 69011-36-5):**

Test Type: Maximisation Test

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

**Germ cell mutagenicity****Components:****N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS: 2372-82-9):**

Genotoxicity in vitro : Test Type: Ames test  
Method: OECD Test Guideline 471  
Result: negative

**Propan-2-ol (CAS: 67-63-0):**

Genotoxicity in vitro : Test Type: Ames test  
Metabolic activation: with and without metabolic activation  
Result: negative

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**STOT - single exposure**

No data available

**STOT - repeated exposure****Components:****N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS: 2372-82-9):**

Assessment: May cause damage to organs through prolonged or repeated exposure.

**Repeated dose toxicity****Components:****N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS: 2372-82-9):**

Species: Rat

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NOAEL: 8 mg/kg  
Application Route: Oral  
Exposure time: 90 d

Species: Dog  
NOAEL: 18 mg/kg  
Application Route: Oral  
Exposure time: 90 d

Species: Rat  
NOAEL: 14 mg/kg  
Application Route: Dermal  
Exposure time: 90 d

### Aspiration toxicity

No data available

### Experience with human exposure

No data available

### Toxicology, Metabolism, Distribution

No data available

### Neurological effects

No data available

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## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Product:

Toxicity to microorganisms : IC50 (Bacteria): 175 mg/l  
Method: OECD Test Guideline 209

#### Components:

##### **Didecyldimethylammonium chloride (CAS: 7173-51-5):**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 0,97 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,057 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae : ErC50 ( Pseudokirchneriella subcapitata (green algae)): 0,053 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : NOEC: 0,032 mg/l  
Exposure time: 34 d  
Species: Leuciscus idus (Golden orfe)  
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,010 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

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### **N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS: 2372-82-9):**

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,68 mg/l  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,073 mg/l  
Exposure time: 48 h  
Test Type: Immobilization
- Toxicity to algae : ErC50 ( Pseudokirchneriella subcapitata (green algae)): 0,054 mg/l  
Exposure time: 72 h  
Test Type: Growth inhibition
- M-Factor (Acute aquatic toxicity) : 10
- Toxicity to microorganisms : (Bacteria): 16 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,024 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211
- M-Factor (Chronic aquatic toxicity) : 1

### **Propan-2-ol (CAS: 67-63-0):**

- Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): > 100 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h
- Toxicity to algae : EC50 ( Scenedesmus capricornutum (fresh water algae)): > 100 mg/l  
Exposure time: 72 h

### **ethanediol (CAS: 107-21-1):**

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 10.000 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 41.100 mg/l  
Exposure time: 48 h
- Toxicity to algae : EC50 ( Scenedesmus capricornutum (fresh water algae)): > 10.000 mg/l  
Exposure time: 72 h

### **Alcohols, C12-14. ethoxylated (CAS: 68439-50-9):**

- Toxicity to fish : LC50 (Fish): > 1 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1 mg/l  
Exposure time: 48 h
- Toxicity to algae : IC50 ( Scenedesmus capricornutum (fresh water algae)): > 1 mg/l  
Exposure time: 72 h  
  
NOEC ( Scenedesmus capricornutum (fresh water algae)): 0,14 mg/l
- M-Factor (Chronic aquatic toxicity) : 1



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### Tridecanol, branched, ethoxylated (CAS: 69011-36-5):

- Toxicity to fish : LC50 (Cyprinus carpio (Carp)): > 1 mg/l  
Exposure time: 96 h  
Test Type: flow-through test  
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202
- Toxicity to algae : EC50 ( Desmodesmus subspicatus (green algae)): > 1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201
- Toxicity to microorganisms : IC50 (Pseudomonas putida): > 1.000 mg/l  
Exposure time: 16 h
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 1 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

### Persistence and degradability

#### Product:

- Biodegradability : Remarks: The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

### Bioaccumulative potential

No data available

### Mobility in soil

No data available

### Other adverse effects

No data available

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## 13. DISPOSAL CONSIDERATIONS

### Disposal methods

- Waste from residues : Dispose of as hazardous waste in compliance with local and national regulations.  
The product should not be allowed to enter drains, water courses or the soil.  
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
- Contaminated packaging : Empty remaining contents.  
Clean container with water.  
Offer rinsed packaging material to local recycling facilities.

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## 14. TRANSPORT INFORMATION

### 14.1 UN number

- ADR : UN 2924

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**IMDG** : UN 2924

**IATA** : UN 2924

### 14.2 UN proper shipping name

**ADR** : FLAMMABLE LIQUID, CORROSIVE, N.O.S.  
(ISOPROPANOL, DIDECYLDIMETHYLAMMONIUM CHLORIDE)

**IMDG** : FLAMMABLE LIQUID, CORROSIVE, N.O.S.  
(isopropanol, didecyldimethylammonium chloride)

**IATA** : FLAMMABLE LIQUID, CORROSIVE, N.O.S.  
(isopropanol, didecyldimethylammonium chloride)

### 14.3 Transport hazard class(es)

**ADR** : 3

**IMDG** : 3

**IATA** : 3

### 14.4 Packing group

**ADR**  
Packing group : III  
Classification Code : FC  
Hazard Identification Number : 38  
Labels : 3 (8)  
Tunnel restriction code : D/E

**IMDG**  
Packing group : III  
Labels : 3 (8)  
EmS Code : F-E, S-C

**IATA (Cargo)**  
Packing instruction (cargo aircraft) : 365  
Packing group : III  
Labels : Class 3 - Flammable Liquid, Class 8 - Corrosive

**IATA (Passenger)**  
Packing instruction (passenger aircraft) : 354  
Packing group : III  
Labels : Class 3 - Flammable Liquid, Class 8 - Corrosive

### 14.5 Environmental hazards

**ADR**  
Environmentally hazardous : yes

**IMDG**  
Marine pollutant : yes

### 14.6 Special precautions for user

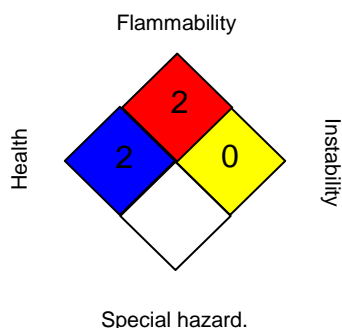
Not applicable

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

Not applicable for product as supplied.

**Korsolex plus****15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****International Regulations****16. OTHER INFORMATION****Full text of other abbreviations**

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

**Further information****NFPA:****HMIS® IV:**

<b>HEALTH</b>	<b>1</b>	<b>2</b>
<b>FLAMMABILITY</b>	<b>2</b>	
<b>PHYSICAL HAZARD</b>	<b>0</b>	

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks.

**Safety datasheet sections which have been updated:**

16. Other information

# SAFETY DATA SHEET

## **Korsolex plus**

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

TC / EN