

1. IDENTIFICATION OF SUBSTANCES / PREPARATION AND COMPANY

Product Name: Korsolex Plus
Product Code: 0887

Application: Instrument Cleanser & Disinfectant AF Solution

Company: Davis Schottlander & Davis Ltd
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Date: 24.11.2015 V2.0

2. HAZARD IDENTIFICATION**2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

| | |
|--------------------------------------|---|
| Flammable liquids, Category 3 | H226: Flammable liquid and vapour. |
| Acute toxicity, Category 4 | H302: Harmful if swallowed. |
| Skin corrosion, Category 1A | H314: Causes severe skin burns and 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. |

2.2 Label elements (REGULATION (EC) No 1272/2008)

Hazard pictograms:

**Signal word:** Danger.**Hazard statements:**

H226: Flammable liquid and vapour.
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H410: Very 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 protection.

Response:

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

P303+P351+P353: IF ON SKIN (or hair), remove/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 CENTRE or doctor/physician.

Disposal:

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

Hazardous components which must be listed on the label:

Didecyldimethylammonium chloride (CAS: 7173-51-5)

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

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.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components

| Chemical Name | CAS-No. EC-No. Registration No. | Concentration [%] |
|---|--|-------------------|
| Didecyldimethylammonium chloride | 7173-51-5 230-525-2 01-2119945987 – 15 | >= 10 - < 20 |
| N-(3-aminopropyl)-N-Dodecylpropane-1, 3-diamine | 2372-82-9 219-145-8 | >=5 - < 10 |
| Propan-2-ol | 67-63-0 200-661-7 01-2119457558-25 | >=3 - < 10 |
| ethanediol | 107-21-1 203-473-3 | < 10 |
| Alcohols, C12-14. ethoxylated | 68439-50-9 | >=3 - < 5 |
| Tridecanol, branched, ethoxylated | 69011-36-5 | >=3 - < 5 |
| Fatty acids, C8-10, compds. With 2,2'-[[3-[(2-hydroxyethyl)amino]propyl]imino]bis[ethanol] N-(C14-18 and C16-18-unsatd. Alkyl) derive. | 95465-87-5 306-002-0 | >=1 - < 3 |

For the full text of the H-Statements see Section 16.

4. FIRST AID MEASURES

4.1 Description of 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.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment: For specialist advice physicians should contact the Poisons Information Service.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

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

5.2 Special hazards arising from the substance or mixture

No data available.

5.3 Advice for firefighters

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

Further information:

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Ensure adequate ventilation.

6.2 Environmental precautions

Environmental precautions: Should not be released into the environment.

6.3 Methods and materials for containment and cleaning up

Methods for 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.

6.4 Reference to other sections

For personal protection see section 8.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling: Prepare the working solution as given on the label(s) and/or the user instructions.

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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Store at room temperature in the original container. Keep tightly closed.

Advice on common storage : Keep away from food and drink.

7.3 Specific end use(s)

No data available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

DNEL

propan-2-ol (CAS: 67-63-0): End Use: Workers
Exposure routes: Skin contact
Potential health effects: Chronic effects
Value: 888 mg/kg

End Use: Workers
Exposure routes: Inhalation
Potential health effects: Chronic effects
Value: 500 mg/m3

End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Chronic effects
Value: 319 mg/kg

End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Chronic effects
Value: 89 mg/m3

End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Chronic effects
Value: 26 mg/kg

PNEC

propan-2-ol (CAS: 67-63-0): Fresh water
Value: 140,9 mg/l

Marine water
Value: 140,9 mg/l

Fresh water sediment
Value: 552 mg/kg

Marine sediment
Value: 552 mg/kg

Soil
Value: 28 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye protection: Tightly fitting safety goggles

Hand protection:

In case of full contact: Nitrile rubber

Material : Protective gloves complying with EN 374.

Break through time: > 480 min

Glove thickness: 0,4 mm

Protective index: Class 6

Peha-soft nitrile guard

In case of contact through splashing: Nitrile rubber

Material: Protective gloves complying with EN 374.

Break through time: 8 min

Glove thickness: 0,1 mm

Protective index: Class 6

Peha-soft nitrile fino

Skin and body protection: Lightweight protective clothing

Protective measures: Ensure that eye flushing systems and safety showers are located close to the working place.

Environmental exposure controls

General advice: Should not be released into the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|------------------------------|--------------------------|
| Appearance: | Liquid |
| Colour: | Greenish-blue |
| Odour: | Pleasant |
| Odour Threshold: | No data available |
| pH: | 9,5, at 20 °C |
| Melting point/range: | Not determined |
| Boiling point/boiling range: | Not determined |
| Flash point: | 44 °C |
| | Method: DIN 51755 Part 1 |
| Evaporation rate: | No data available |
| Flammability (solid, gas): | Not auto-flammable |
| Burning rate: | No data available |
| Lower explosion limit: | No data available |
| Upper explosion limit: | No data available |
| Vapour pressure: | No data available |
| Relative vapor density: | No data available |

SAFETY DATA SHEET

| | |
|---|---------------------------------|
| Relative density: | No data available |
| Density: | 1,01 g/cm ³ at 20 °C |
| Water solubility: | Completely miscible |
| Solubility in other solvents: | No data available |
| Partition coefficient: n-octanol/water: | No data available |
| Ignition temperature: | No data available |
| Thermal decomposition: | No data available |
| Viscosity, dynamic: | No data available |
| Viscosity, kinematic: | No data available |
| Explosive properties: | No data available |
| Oxidizing properties: | No data available |

9.2 Other information

| | |
|---------------|-------------------|
| Conductivity: | No data available |
|---------------|-------------------|

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: | None. |
| Hazardous decomposition products: | No data available |

11. TOXICOLOGY INFORMATION

11.1 Information on toxicological effects

Product

| | |
|--|---|
| Acute oral toxicity: | No data available |
| Acute inhalation toxicity: | No data available |
| Acute dermal toxicity: | No data available |
| Acute toxicity (other routes of administration): | No data available |
| Skin corrosion/irritation: | Result: Corrosive |
| Serious eye damage/eye irritation: | Result: Corrosive |
| Respiratory or skin sensitization: | Result: Does not cause skin sensitization. Result: Does not cause respiratory sensitization. |

| | |
|---------------------------|--|
| Germ cell mutagenicity | |
| Genotoxicity in vitro: | No data available |
| Genotoxicity in vivo: | No data available |
| Carcinogenicity: | This information is not available. |
| Reproductive toxicity: | This information is not available. |
| Teratogenicity: | This information is not available. |
| STOT - single exposure: | Remarks: No data available |
| Repeated dose toxicity: | Note: This information is not available. |
| STOT - repeated exposure: | Remarks: No data available |

Components:

didcyldimethylammonium chloride (CAS: 7173-51-5):

| | |
|----------------------|---|
| Acute oral toxicity: | LD50 Oral rat: 238 mg/kg Method: OECD Test Guideline 401 |
|----------------------|---|

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|------------------------|---------------------------------|
| Acute dermal toxicity: | LD50 Dermal rabbit: 3.342 mg/kg |
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SAFETY DATA SHEET

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|---|---|
| Skin corrosion/irritation: | Species: rabbit Result: Corrosive after 3 minutes or less of exposure |
| 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 |
| Skin corrosion/irritation: | Species: rabbit Exposure time: 3 min Result: Corrosive after 3 minutes or less of exposure Method: OECD Test Guideline 404 |
| Respiratory or skin sensitization: | Test Method: Buehler Test Species: guinea pig Result: Did not cause sensitization on laboratory animals. Method: OECD Test Guideline 406 |
| Germ cell mutagenicity Genotoxicity in vitro: | Type: Ames test Result: negative Method: OECD Test Guideline 471 |
| Repeated dose toxicity: | rat: NOAEL: 8 mg/kg Application Route: Oral Exposure time: 90 d dog: NOAEL: 18 mg/kg Application Route: Oral Exposure time: 90 d rat: NOAEL: 14 mg/kg Application Route: Dermal Exposure time: 90 d |
| 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 |
| Acute dermal toxicity: | LD50 Dermal rabbit: > 2.000 mg/kg |
| Skin corrosion/irritation: | Species: rabbit Result: No skin irritation |
| Serious eye damage/eye irritation: | Species: rabbit Result: Eye irritation |
| Respiratory or skin sensitization: | Test Method: Buehler Test Species: guinea pig Result: Did not cause sensitization on laboratory animals. |
| Germ cell mutagenicity Genotoxicity in vitro: | Type: Ames test with or without metabolic activation Result: negative |
| ethanediol (CAS: 107-21-1): | |
| Acute oral toxicity: | LD50 Oral rat: > 300 mg/kg |
| Acute dermal toxicity: | LD50 Dermal rabbit: 9.530 mg/kg |
| Alcohols, C12-14. ethoxylated (CAS: 68439-50-9): | |

SAFETY DATA SHEET

Acute oral toxicity: LD50 Oral rat: 1.500 mg/kg
Skin corrosion/irritation: Result: Repeated exposure may cause skin dryness or cracking.

Serious eye damage/eye
Irritation: Result: Irreversible effects on the eye.

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

Acute oral toxicity: LD50 Oral rat: > 2.000 mg/kg
Acute dermal toxicity: LD50 Dermal rabbit: > 2.000 mg/kg
Skin corrosion/irritation: Species: rabbit
Result: No skin irritation
Serious eye damage/eye Species: rabbit

Irritation: Result: Risk of serious damage to eyes.

Respiratory or skin sensitization: Test Method: Maximisation Test
Species: guinea pig
Result: Did not cause sensitization on laboratory animals.

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):

Skin corrosion/irritation: Species: rabbit
Result: Skin irritation
Serious eye damage/eye Species: rabbit
Irritation: Result: Eye irritation

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Product:

Toxicity to fish: No data available
Toxicity to daphnia and other aquatic invertebrates: No data available
Toxicity to algae: No data available
Toxicity to bacteria: EC50 (Bacteria): 175 mg/l
Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): No data available

Components:

didcyldimethylammonium 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: 10

Toxicity to daphnia and other NOEC: 0,010 mg/l

SAFETY DATA SHEET

| | |
|---|--|
| aquatic invertebrates (Chronic toxicity): | Exposure time: 21 d Species: Daphnia magna (Water flea) |
| N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS 2372-82-9): | |
| Toxicity to fish: | LC50 (Oncorhynchus mykiss (rainbow trout)): 0,62 mg/l Exposure time: 96 h Test Method: static test Method: OECD Test Guideline 203 |
| | LC50 (Lepomis macrochirus (Bluegill sunfish)): 0,41 mg/l Exposure time: 96 h Test Method: static test Method: No information available. |
| Toxicity to daphnia and other aquatic invertebrates: | EC50 (Daphnia magna (Water flea)): 0,067 mg/l Exposure time: 48 h Test Method: Immobilization |
| Toxicity to algae: | ErC50 (Pseudokirchneriella subcapitata (green algae)): 0,050 mg/l Exposure time: 96 h Test Method: Growth inhibition |
| M-Factor: | 10 |
| Toxicity to bacteria: | (Bacteria): 16 mg/l Exposure time: 3 h Test Method: Respiration inhibition Method: OECD Test Guideline 209 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): | 0,022 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 |
| propan-2-ol (CAS 67-63-0): | |
| Toxicity to fish: | LC50 (Leuciscus idus (Golden orfe)): > 100 mg/l Exposure time: 48 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: 7 d |
| Alcohols, C12-14. ethoxylated (CAS 68439-50-9): | |
| Toxicity to fish: | LC50 (Fish): > 1 mg/l |
| Exposure time: | 96 h |

SAFETY DATA SHEET

| | |
|--|--|
| Toxicity to daphnia and other aquatic invertebrates: | EC50 (Daphnia magna (Water flea)): > 1 mg/l Exposure time: 48 h |
| Toxicity to algae: | EC50 (Scenedesmus capricornutum (fresh water algae)): > 1 mg/l Exposure time: 72 h |
| Tridecanol, branched, ethoxylated (CAS 69011-36-5): | |
| Toxicity to fish: | LC50 (Cyprinus carpio (Carp)): 1 - 10 mg/l Exposure time: 96 h Test Method: flow-through test Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates: | EC50 (Daphnia magna (Water flea)): 1 - 10 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 |
| Toxicity to algae: | EC50 (Desmodesmus subspicatus (green algae)): 1 - 10 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 |
| M-Factor: | 1 |
| Toxicity to bacteria: | EC50 (Bacteria): 140 mg/l Test Method: Respiration inhibition |

12.2 Persistence and degradability

Product:

Biodegradability : 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.

12.3 Bioaccumulative potential

Product:

Bioaccumulation : No data available

12.4 Mobility in soil

Product:

Distribution among environmental compartments: No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment: No data available

12.6 Other adverse effects

Product:

Absorbed organic bound halogens (AOX): Product does not contain any organic halogens.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

| | |
|--|--|
| Product: | 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. The following Waste Codes are only suggestions: |
| Waste Code EU: | 070601* aqueous washing liquids and mother liquors |
| Contaminated packaging: | Empty remaining contents. Clean container with water. |
| Offer rinsed packaging material to local recycling facilities. | |

14. TRANSPORT INFORMATION

14.1 UN number

| | |
|-------|---------|
| ADR: | UN 2924 |
| 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

| | |
|-------|-------|
| ADR: | 3 (8) |
| IMDG: | 3 (8) |
| IATA: | 3 (8) |

14.4 Packaging group

ADR

| | |
|---------------------------|-------|
| Packaging group: | III |
| Classification Code: | FC |
| Hazard identification No: | 38 |
| Labels: | 3 (8) |
| Tunnel restriction code: | D/E |

IMDG

| | |
|------------------|----------|
| Packaging group: | III |
| Labels: | 3 (8) |
| EmS Number: | F-E, S-C |

IATA

| | |
|------------------|-------|
| Packaging group: | III |
| Labels: | 3 (8) |

14.5 Environmental hazards

SAFETY DATA SHEET

ADR

Environmentally hazardous: yes

IMDG

Marine Pollutant: yes

IATA

Environmentally hazardous: no

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

Not applicable

15. REGULATORY INFORMATION

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

Notification status

| | |
|----------|---|
| CH INV: | The formulation contains substances listed on the Swiss Inventory |
| US.TSCA: | Not On TSCA Inventory |
| DSL : | This product contains the following components that are not on the Canadian DSL nor NDSL. |
| AICS: | Not in compliance with the inventory |
| NZIoC: | Not in compliance with the inventory |
| ENCS: | Not in compliance with the inventory |
| ISHL: | Not in compliance with the inventory |
| KECI: | Not in compliance with the inventory |
| PICCS: | Not in compliance with the inventory |
| IECSC: | Not in compliance with the inventory |

For explanation of abbreviations see section 16.

15.2 Chemical Safety Assessment

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

16. FURTHER INFORMATION

The data given above covers exclusively the safety requirements of the product(s) and is based on our current knowledge and experience. It does not signify any warranty with regards to the products properties. This product is only supplied for specific uses in dentistry and must be used in accordance with the directions for use.

Full text of H-Statements referred to under sections 2 and 3.

| | |
|------|--|
| H225 | Highly flammable liquid and vapour. |
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |

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| | |
|------|--|
| H336 | May cause drowsiness or dizziness. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life |

Full text of other abbreviations

Notification status

| | |
|---------|---|
| CH INV | Switzerland. New notified substances and declared preparations |
| US.TSCA | Toxic substances control act |
| DSL | Canada. DSL - Domestic Substances List, part of CEPA |
| AICS | Australia. AICS - Australian Inventory of Chemical Substances |
| NZIoC | New Zealand Inventory of Chemical Substances |
| ENCS | Japan. ENCS - Existing and New Chemical Substances Inventory |
| ISHL | Japan. Industrial Safety and Health Law - Inventory |
| KECI | Korea. KECI - Korean Existing Chemicals Inventory |
| PICCS | Philippines. PICCS - Philippines Inventory of Chemicals and Chemical Substances |
| IECSC | China. IECSC - Inventory of Existing Chemical Substances in China |

Safety datasheet sections which have been updated:

- 8. Exposure controls/personal protection
- 9. Physical and chemical properties
- 11. Toxicological information
- 12. Ecological information
- 15. Regulatory information