

# SAFETY DATA SHEET



## KARATHANE STAR™

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Corteva Agriscience™ encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container. This Safety Data Sheet adheres to the standards and regulatory requirements of South Africa and may not meet the regulatory requirements in other countries.

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

#### 1.1 Product identifier

Trade name : KARATHANE STAR™

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

Use of the Sub-stance/Mixture : Plant Protection Product  
Fungicide

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

##### COMPANY IDENTIFICATION

##### Manufacturer/importer

Corteva Agriscience RSA Proprietary Limited  
Block A, 2nd Floor, Lakefield Office Park, 272 West Avenue  
Centurion, Gauteng, 1063  
SOUTH AFRICA

**Customer Information** : +27 (0) 12 683 5700

##### Number

**E-mail address** : SDS@corteva.com

#### 1.4 Emergency telephone number

24-Hour Local Emergency Contact: +27 82 895 0621

24-Hour Emergency Contact: +32 3 575 55 55

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.

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Long-term (chronic) aquatic hazard, Category 1

H410: Very toxic to aquatic life with long lasting effects.

## 2.2 Label elements

Hazard pictograms :



Signal word :

Warning

Hazard statements :

H226 Flammable liquid and vapour.  
 H302 Harmful if swallowed.  
 H317 May cause an allergic skin reaction.  
 H319 Causes serious eye irritation.  
 H336 May cause drowsiness or dizziness.  
 H410 Very toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements :

EUH066 Repeated exposure may cause skin dryness or cracking.  
 EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements :

### 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.

### Response:

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.  
 P302 + P352 IF ON SKIN: Wash with plenty of water.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### Disposal:

P501 Dispose of contents/container in accordance with applicable regulations.

Hazardous components which must be listed on the label:

Hydrocarbons, C10, aromatics, <1% naphthalene

Meptyldinocap

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts

## 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.

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**SECTION 3: Composition/information on ingredients****3.2 Mixtures****Components**

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Meptyldinocap	131-72-6	Flam. Liq. 3; H226 Acute Tox. 4; H332 Skin Sens. 1B; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	35,59
Hydrocarbons, C10, aromatics, <1% naphthalene	1189173-42-9  01-2119463583-34-0008, 01-2119463583-34-0009, 01-2119463583-34-0010	STOT SE 3; H336 (Central nervous system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 50 - < 60
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	68953-96-8 273-234-6 01-2119964467-24	Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 2; H411	>= 3 - < 10

For explanation of abbreviations see section 16.

**SECTION 4: First aid measures****4.1 Description of first aid measures**

- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection).  
If potential for exposure exists refer to Section 8 for specific personal protective equipment.
- If inhaled : Move person to fresh air. If person is not breathing, call an

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emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

If breathing is difficult, oxygen should be administered by qualified personnel.

In case of skin contact : Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.  
Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly.  
Suitable emergency safety shower facility should be available in work area.

In case of eye contact : Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.  
Suitable emergency eye wash facility should be available in work area.

If swallowed : Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor.  
Never give anything by mouth to an unconscious person.

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

None known.

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

Treatment : May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help.  
No specific antidote.  
Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.  
Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.  
Repeated excessive exposure may aggravate preexisting lung disease.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

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Unsuitable extinguishing media : Do not use direct water stream.  
High volume water jet

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

Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.  
Vapours may form explosive mixtures with air.  
Do not allow run-off from fire fighting to enter drains or water courses.  
Flash back possible over considerable distance.

Hazardous combustion products : Nitrogen oxides (NOx)  
Carbon 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 : Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Further information : Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed.  
Do not use a solid water stream as it may scatter and spread fire.  
Use a water spray to cool fully closed containers.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Ensure adequate ventilation.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.  
Remove all sources of ignition.  
Use personal protective equipment.  
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**6.2 Environmental precautions**

Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.  
Discharge into the environment must be avoided.  
Prevent further leakage or spillage if safe to do so.

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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.

Prevent from entering into soil, ditches, sewers, underwater.

See Section 12, Ecological Information.

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

Methods for cleaning up : 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.

For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped,

Recovered material should be stored in a vented container. The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to over-pressurization of the container.

Wipe up with absorbent material (e.g. cloth, fleece).

Non-sparking tools should be used.

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).

Suppress (knock down) gases/vapours/mists with a water spray jet.

See Section 13, Disposal Considerations, for additional information.

### 6.4 Reference to other sections

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

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

Advice on safe handling : Avoid formation of aerosol. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Non-sparking tools should be used.

Provide sufficient air exchange and/or exhaust in work rooms.

Open drum carefully as content may be under pressure.

Do not breathe vapours/dust.

Do not smoke.

Handle in accordance with good industrial hygiene and safety practice.

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Avoid exposure - obtain special instructions before use.  
 Smoking, eating and drinking should be prohibited in the application area.  
 Do not get on skin or clothing.  
 Do not breathe vapours or spray mist.  
 Do not swallow.  
 Do not get in eyes.  
 Avoid contact with skin and eyes.  
 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.  
 Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

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

- Requirements for storage areas and containers : Store in a closed container. No smoking. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in properly labelled containers. Keep tightly closed. Store in accordance with the particular national regulations.
- Advice on common storage : Do not store near acids.  
 Strong oxidizing agents  
 Organic peroxides  
 Flammable solids  
 Pyrophoric liquids  
 Self-heating substances and mixtures  
 Substances and mixtures, which in contact with water, emit flammable gases  
 Explosives  
 Gases
- Packaging material : Unsuitable material: None known.

**7.3 Specific end use(s)**

- Specific use(s) : Plant protection products subject to Regulation (EC) No 1107/2009.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters**

Contains no substances with occupational exposure limit values.

**8.2 Exposure controls****Engineering measures**

Use engineering controls to maintain airborne level below exposure limit requirements or guidelines.  
 If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation.  
 Local exhaust ventilation may be necessary for some operations.

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**Personal protective equipment**

- Eye/face protection : Use chemical goggles.  
Chemical goggles should be consistent with EN 166 or equivalent.
- Hand protection
- Remarks : Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Styrene/butadiene rubber. Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
- Skin and body protection : Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.
- Respiratory protection : Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.



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**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

Appearance	:	Liquid.
Colour	:	Yellow to brown
Odour	:	Aromatic
pH	:	4,8 (20 °C) Concentration: 1 % Method: CIPAC MT 75 (1% aqueous suspension)
Melting point/range	:	Not applicable
Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	53,6 °C Method: Pensky-Martens Closed Cup ASTM D 93, closed cup
Evaporation rate	:	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
Relative density	:	No data available
Density	:	No test data available
Solubility(ies)	:	
Water solubility	:	emulsifiable
Auto-ignition temperature	:	340 °C Method: EC Method A15
Viscosity	:	
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	306,0 mm <sup>2</sup> /s (40 °C)
Explosive properties	:	No Method: Mechanical Impact @ 8 inches
Oxidizing properties	:	No

**9.2 Other information**

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Surface tension : 30 mN/m, 25 °C

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**SECTION 10: Stability and reactivity****10.1 Reactivity**

Not classified as a reactivity hazard.

**10.2 Chemical stability**

No decomposition if stored and applied as directed.  
Stable under normal conditions.

**10.3 Possibility of hazardous reactions**

Hazardous reactions : Stable under recommended storage conditions.  
No hazards to be specially mentioned.  
Vapours may form explosive mixture with air.  
May form explosive dust-air mixture.

**10.4 Conditions to avoid**

Conditions to avoid : Heat, flames and sparks.

**10.5 Incompatible materials**

Materials to avoid : Strong acids  
Strong bases

**10.6 Hazardous decomposition products**

Carbon oxides

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**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity****Product:**

Acute inhalation toxicity : LC50 (Rat, male and female): 12,5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 436  
Assessment: The component/mixture is minimally toxic after short term inhalation.

**Components:****Meptyldinocap:**

Acute oral toxicity : LD50 (Rat, female): > 2.000 mg/kg  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : Remarks: Prolonged excessive exposure to mist may cause serious adverse effects, even death.

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May cause pulmonary edema (fluid in the lungs.)

LC50 (Rat, male): 1,24 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: EPA OPPTS 870.1300 (Acute inhalation toxicity)

Acute dermal toxicity : LD50 (Rat, male and female): > 5.000 mg/kg

**Hydrocarbons, C10, aromatics, <1% naphthalene:**

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg  
Remarks: For similar material(s):

Acute inhalation toxicity : LC50 (Rat): > 4,688 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: For similar material(s):  
Maximum attainable concentration.

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: For similar material(s):

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Acute oral toxicity : LD50 (Rat, male and female): > 2.000 mg/kg  
Method: OECD 401 or equivalent  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: For similar material(s):

Acute dermal toxicity : LD50 (Rat, male and female): > 1.000 - < 1.600 mg/kg  
Method: OECD 402 or equivalent  
Remarks: For similar material(s):

**Skin corrosion/irritation**

**Components:**

**Meptyldinocap:**

Result : No skin irritation

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Result : Skin irritation

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**Serious eye damage/eye irritation****Components:****Meptyldinocap:**

Result : No eye irritation

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Result : Corrosive

**Respiratory or skin sensitisation****Components:****Meptyldinocap:**

Assessment : The product is a skin sensitiser, sub-category 1B.  
Remarks : Has demonstrated the potential for contact allergy in mice.  
Has caused allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:  
No relevant data found.

**Hydrocarbons, C10, aromatics, <1% naphthalene:**

Remarks : For similar material(s):  
Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:  
No relevant data found.

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Remarks : For skin sensitization:  
For similar material(s):  
Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:  
No relevant data found.

**Germ cell mutagenicity****Components:****Meptyldinocap:**

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

**Hydrocarbons, C10, aromatics, <1% naphthalene:**

Germ cell mutagenicity- Assessment : For similar material(s):, In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

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**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Germ cell mutagenicity- Assessment : For similar material(s); In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

**Carcinogenicity****Components:****Meptyldinocap:**

Carcinogenicity - Assessment : For similar active ingredient(s); Dinocap.; Did not cause cancer in laboratory animals.

**Reproductive toxicity****Components:****Meptyldinocap:**

Reproductive toxicity - Assessment : For similar active ingredient(s); Dinocap.; In animal studies, did not interfere with reproduction.  
Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

**Hydrocarbons, C10, aromatics, <1% naphthalene:**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.  
For similar material(s); Did not cause birth defects or any other fetal effects in laboratory animals.

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Reproductive toxicity - Assessment : For similar material(s); In animal studies, did not interfere with reproduction.  
For similar material(s); Did not cause birth defects or any other fetal effects in laboratory animals.

**STOT - single exposure****Components:****Meptyldinocap:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Hydrocarbons, C10, aromatics, <1% naphthalene:**

Exposure routes : Inhalation  
Assessment : May cause drowsiness or dizziness.

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

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**Repeated dose toxicity****Components:****Meptyldinocap:**

Remarks : In animals, effects have been reported on the following organs:  
Liver.

**Hydrocarbons, C10, aromatics, <1% naphthalene:**

Remarks : Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Remarks : For similar material(s):  
In animals, effects have been reported on the following organs:  
Kidney.

**Aspiration toxicity****Components:****Meptyldinocap:**

Based on physical properties, not likely to be an aspiration hazard.

**Hydrocarbons, C10, aromatics, <1% naphthalene:**

May be fatal if swallowed and enters airways.

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Based on physical properties, not likely to be an aspiration hazard.

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**SECTION 12: Ecological information****12.1 Toxicity****Components:****Meptyldinocap:**

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 0,0569 mg/l  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 203 or Equivalent

LC50 (Rainbow trout (Oncorhynchus mykiss)): 0,0662 mg/l  
Exposure time: 96 h  
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 0,0066 mg/l  
Exposure time: 48 h

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EC50 (Daphnia (water flea)): 0,0041 mg/l  
Exposure time: 48 h  
Test Type: static test

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 10 mg/l  
Exposure time: 72 h  
Test Type: static test

M-Factor (Acute aquatic toxicity) : 100

Toxicity to microorganisms : EC50 (Bacteria): 10,2 mg/l  
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 0,00286 mg/l  
End point: survival  
Exposure time: 29 d  
Species: Pimephales promelas (fathead minnow)  
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,00076 mg/l  
End point: number of offspring  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: flow-through test  
Method: OECD Test Guideline 211 or Equivalent

M-Factor (Chronic aquatic toxicity) : 100

Toxicity to soil dwelling organisms : LC50: 302 mg/kg  
Exposure time: 14 d  
Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organisms : Remarks: Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).  
Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

dietary LC50: > 5620 mg/kg diet.  
Species: Anas platyrhynchos (Mallard duck)

oral LD50: > 2150 mg/kg bodyweight.  
Species: Colinus virginianus (Bobwhite quail)

contact LD50: 60,6 micrograms/bee  
Exposure time: 48 h  
End point: mortality  
Species: Apis mellifera (bees)  
Method: Other guidelines

oral LD50: 66,1 micrograms/bee  
Exposure time: 48 h

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End point: mortality  
Species: Apis mellifera (bees)  
Method: Other guidelines

NOEC: 500 ppm  
Exposure time: 42 d  
End point: Reproduction Test  
Species: Colinus virginianus (Bobwhite quail)

NOEC: 250 ppm  
Exposure time: 147 d  
End point: Reproduction Test  
Species: Colinus virginianus (Bobwhite quail)

**Hydrocarbons, C10, aromatics, <1% naphthalene:**

Toxicity to fish : Remarks: For similar material(s):  
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

Remarks: For similar material(s):  
Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).

LC50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l  
Exposure time: 96 h  
Remarks: For similar material(s):

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna): 3 - 10 mg/l  
Exposure time: 48 h  
Remarks: For similar material(s):

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 11 mg/l  
Exposure time: 72 h  
Remarks: For similar material(s):

**Ecotoxicology Assessment**

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

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Toxicity to fish : Remarks: Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

LC50 (zebra fish (Brachydanio rerio)): 31,6 mg/l  
Exposure time: 96 h  
Remarks: For similar material(s):

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 62 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic : ErC50 (Selenastrum capricornutum (green algae)): 29 mg/l



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plants  
End point: Growth rate inhibition  
Exposure time: 96 h  
Remarks: For similar material(s):

Toxicity to microorganisms : EC50 (activated sludge): 550 mg/l  
End point: Respiration rates.  
Exposure time: 3 h  
Remarks: For similar material(s):

Toxicity to fish (Chronic toxicity) : NOEC: 0,23 mg/l  
End point: survival  
Exposure time: 72 d  
Species: Rainbow trout (*Salmo gairdneri*)  
Remarks: For similar material(s):

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1,18 mg/l  
End point: number of offspring  
Exposure time: 21 d  
Species: *Daphnia magna* (Water flea)  
Remarks: For similar material(s):

**12.2 Persistence and degradability****Components:****Meptyldinocap:**

Biodegradability : Remarks: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

Concentration: 29,5 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 18,4 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F or Equivalent  
Remarks: 10-day Window: Fail

Stability in water : Degradation half life (half-life): 30,4 d (20 °C)  
pH: 7

**Hydrocarbons, C10, aromatics, <1% naphthalene:**

Biodegradability : Remarks: Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Biodegradability : Result: Not readily biodegradable.  
Remarks: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

Biodegradation: 2,9 %

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Exposure time: 28 d  
 Method: OECD Test Guideline 301E or Equivalent  
 Remarks: 10-day Window: Fail

**12.3 Bioaccumulative potential****Components:****Meptyldinocap:**

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
 Exposure time: 28 d  
 Temperature: 22 °C  
 Concentration: 0,0002 mg/l  
 Bioconcentration factor (BCF): 992

Partition coefficient: n-octanol/water : log Pow: 6,55 (25 °C)  
 pH: 6,8 - 7,7  
 Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Hydrocarbons, C10, aromatics, <1% naphthalene:**

Partition coefficient: n-octanol/water : Remarks: No data available for this product.  
 For similar material(s):  
 Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Partition coefficient: n-octanol/water : log Pow: 4,6  
 Method: OECD Test Guideline 107 or Equivalent  
 Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**12.4 Mobility in soil****Components:****Meptyldinocap:**

Distribution among environmental compartments : Koc: 58245  
 Remarks: Expected to be relatively immobile in soil (Koc > 5000).

**Hydrocarbons, C10, aromatics, <1% naphthalene:**

Distribution among environmental compartments : Remarks: No relevant data found.

**Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Distribution among environmental compartments : Remarks: No relevant data found.

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

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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:

#### **Meptyldinocap:**

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).

#### **Hydrocarbons, C10, aromatics, <1% 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 (vPvB).

#### **Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

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).

## 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.

### Components:

#### **Meptyldinocap:**

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

#### **Hydrocarbons, C10, aromatics, <1% naphthalene:**

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

#### **Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:**

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

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Product : If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

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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.  
(Meptyldinocap, Aromatic hydrocarbon)  
**IMDG** : FLAMMABLE LIQUID, N.O.S.  
(Meptyldinocap, Aromatic hydrocarbon)  
**IATA** : Flammable liquid, n.o.s.  
(Meptyldinocap, Aromatic hydrocarbon)

**14.3 Transport hazard class(es)**

**UNRTDG** : 3  
**IMDG** : 3  
**IATA** : 3

**14.4 Packing group**

**UNRTDG**  
Packing group : III  
Labels : 3  
**IMDG**  
Packing group : III  
Labels : 3  
EmS Code : F-E, S-E  
Remarks : Stowage category A

**IATA (Cargo)**  
Packing instruction (cargo aircraft) : 366

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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(Meptyldinocap)

### 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

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.      P5c      FLAMMABLE LIQUIDS

E1      ENVIRONMENTAL HAZARDS

### 15.2 Chemical safety assessment

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

The mixture is evaluated within the frame of the provisions of Regulation (EC) No. 1107/2009. Refer to the label for exposure assessment information.

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## SECTION 16: Other information

### Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

Classification was done in accordance with UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Purple Book and complies with the Regulations for Hazardous Chemical Agents, 2021.

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**Full text of H-Statements**

H226	: Flammable liquid and vapour.
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.
H336	: May cause drowsiness or dizziness.
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
Eye Dam.	: Serious eye damage
Flam. Liq.	: Flammable liquids
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT SE	: Specific target organ toxicity - single exposure

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 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;

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SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - 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
Acute Tox. 4	H302
Skin Sens. 1	H317
Eye Irrit. 2	H319
STOT SE 3	H336
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

#### Classification procedure:

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

Product code: GF-1478

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.

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