1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name : Cloprostenol (with Propylene Glycol) Formulation

Supplier’s company name, address and phone number
Company name of supplier : MSD
Address : Kumagaya, Saitama Prefecture, Xicheng 810 MSD Co., Ltd.
Menuma factory
Telephone : 048-588-8411
E-mail address : EHSDATASTEWARD@msd.com
Emergency telephone number : +1-908-423-6000

Recommended use of the chemical and restrictions on use
Recommended use : Veterinary product

2. HAZARDS IDENTIFICATION

GHS classification of chemical product
Not a hazardous substance or mixture according to the Globally Harmonised System (GHS).

GHS label elements
Not a hazardous substance or mixture according to the Globally Harmonised System (GHS).

Other hazards which do not result in classification
None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
<th>ENCS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>57-55-6</td>
<td>&gt;= 10 - &lt; 20</td>
<td>2-234</td>
</tr>
<tr>
<td>4-Chloro-3-methylphenol</td>
<td>59-50-7</td>
<td>&gt;= 0.1 - &lt; 0.25</td>
<td>3-900</td>
</tr>
<tr>
<td>Sodium [1α(Z),2β(1E,3R*),3α,5α]-(+/-)-7-[2-{4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl]hept-5-enolate</td>
<td>55028-72-3</td>
<td>&lt; 0.1</td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

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

Cloprostenol (with Propylene Glycol) Formulation

Version 4.0  
Revision Date: 2021/08/27  
SDS Number: 5266458-00005  
Date of last issue: 2020/10/10  
Date of first issue: 2019/11/14

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

In case of eye contact: Flush eyes with water as a precaution.  
Get medical attention if irritation develops and persists.

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

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

Protection of first-aiders: No special precautions are necessary for first aid responders.

Notes to physician: Treat symptomatically and supportively.

5. FIREFIGHTING MEASURES

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

Unsuitable extinguishing media: None known.

Specific hazards during firefighting: Exposure to combustion products may be a hazard to health.

Hazardous combustion products: Carbon oxides

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.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions: Avoid release to the environment.  
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.

Methods and materials for containment and cleaning up: Soak up with inert absorbent material.  
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.

7. HANDLING AND STORAGE

Handling
Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation : Use only with adequate ventilation.
Advice on safe handling : Avoid prolonged or repeated contact with skin. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment.
Take care to prevent spills, waste and minimize release to the environment.
Avoidance of contact : Oxidizing agents
Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

Storage
Conditions for safe storage : Keep in properly labelled containers. Store in accordance with the particular national regulations.
Materials to avoid : Do not store with the following product types: Strong oxidizing agents
Packaging material : Unsuitable material: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Threshold limit value and permissible exposure limits for each component in the work environment

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Reference concentration / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium</td>
<td>55028-72-3</td>
<td>TWA</td>
<td>0.01 ug/m3 (OEB)</td>
<td>Internal</td>
</tr>
</tbody>
</table>
[1α(Z),2β(1E,3R*)]-[(-/+)7-[2-[4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl]hept-5-enoate]

Further information: RSEN, Skin
Wipe limit 0.1 ug/100 cm² Internal

Engineering measures:
Use closed processing systems or containment technologies to control at source (e.g., glove boxes/isolators) and to prevent leakage of compounds into the workplace.
All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.
No open handling permitted.
Totally enclosed processes and materials transport systems are required.
Operations require the use of appropriate containment technology designed to prevent leakage of compounds into the workplace.

Personal protective equipment:
Respiratory protection:
Filter type: Particulates type
If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Hand protection:
Material: Chemical-resistant gloves
Remarks: Consider double gloving.

Eye protection:
Wear safety glasses with side shields or goggles.
If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.
Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection:
Work uniform or laboratory coat.
Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.
Use appropriate degowning techniques to remove potentially contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Aqueous solution
Colour: Colourless
Odour: Characteristic
Odour Threshold: No data available
Melting point/freezing point : -6 °C
Boiling point, initial boiling point and boiling range : 99 °C
Flammability (solid, gas) : Not applicable
Flammability (liquids) : No data available
Lower explosion limit and upper explosion limit / flammability limit
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Flash point : No data available
Decomposition temperature : No data available
pH : No data available
Evaporation rate : No data available
Auto-ignition temperature : No data available
Viscosity
Viscosity, kinematic : 1.56 - 1.62 mm2/s
Solubility(ies)
Water solubility : soluble
Partition coefficient: n-octanol/water : No data available
Vapour pressure : No data available
Density and / or relative density
Relative density : 1.02 - 1.08
Density : No data available
Relative vapour density : No data available
Explosive properties : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.
Molecular weight : No data available
Particle characteristics
Particle size : Not applicable
SAFETY DATA SHEET

Cloprostenol (with Propylene Glycol) Formulation

10. STABILITY AND REACTIVITY

- **Reactivity**: Not classified as a reactivity hazard.
- **Chemical stability**: Stable under normal conditions.
- **Possibility of hazardous reactions**: Can react with strong oxidizing agents.
- **Conditions to avoid**: None known.
- **Incompatible materials**: Oxidizing agents
- **Hazardous decomposition products**: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**
- Inhalation
- Skin contact
- Ingestion
- Eye contact

**Acute toxicity**
Not classified based on available information.

**Components:**

**Propylene glycol:**
- **Acute oral toxicity**: LD50 (Rat): 22,000 mg/kg
- **Acute inhalation toxicity**: LC50 (Rat): > 44.9 mg/l
  Exposure time: 4 h
  Test atmosphere: dust/mist
- **Acute dermal toxicity**: LD50 (Rabbit): > 2,000 mg/kg
  Assessment: The substance or mixture has no acute dermal toxicity

**4-Chloro-3-methylphenol:**
- **Acute oral toxicity**: LD50 (Mouse): 600 mg/kg
- **Acute inhalation toxicity**: LC50 (Rat): > 2.871 mg/l
  Exposure time: 4 h
  Test atmosphere: dust/mist
- **Acute dermal toxicity**: LD50 (Rat): > 5,000 mg/kg

**Sodium [1α(Z),2β(1E,3R*)]-3α,5α-(+/−)-7-[2-[4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl]hept-5-enoate:**
- **Acute oral toxicity**: LD50 (Rat): > 25 mg/kg
  Remarks: No mortality observed at this dose.
- **Acute toxicity (other routes of administration)**: LD50 (Rat): > 50 mg/kg
  Application Route: Subcutaneous
LD50 (Rat): > 50 mg/kg
Application Route: Intramuscular

LD50 (Rat): 5 mg/kg
Application Route: Intravenous
Remarks: No mortality observed at this dose.

LD50 (Mouse): 350 mg/kg
Application Route: Intramuscular

LD50 (Mouse): 54.7 mg/kg
Application Route: Intravenous

TDLo (Monkey): 0.0025 - 0.025 mg/kg
Application Route: Intramuscular
Target Organs: Lungs
Symptoms: Diarrhoea, Vomiting, Rapid respiration

TDLo (Monkey): 0.0013 mg/kg
Application Route: Intramuscular
Target Organs: ovaries

Skin corrosion/irritation
Not classified based on available information.

**Components:**

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

4-Chloro-3-methylphenol:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Corrosive after 1 to 4 hours of exposure

Sodium [1α(Z),2β(1E,3R*),3α,5α-(+/-)-7-[2-[4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl]hept-5-enolate:
Remarks: Not classified due to lack of data.
Can be absorbed through skin.

**Serious eye damage/eye irritation**
Not classified based on available information.

**Components:**

**Propylene glycol:**
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
SAFETY DATA SHEET

Cloprostenol (with Propylene Glycol) Formulation

Version 4.0 Revision Date: 2021/08/27 SDS Number: 5266458-00005 Date of last issue: 2020/10/10 Date of first issue: 2019/11/14

4-Chloro-3-methylphenol:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>Irreversible effects on the eye</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
</tbody>
</table>

Sodium [1α(Z),2β(1E,3R*),3α,5α-(+/-)-7-[2-[4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl]hept-5-enoate:

| Remarks               | Not classified due to lack of data. |

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Components:

Propylene glycol:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Maximisation Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure routes</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Species</td>
<td>Guinea pig</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

4-Chloro-3-methylphenol:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Maximisation Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure routes</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Species</td>
<td>Guinea pig</td>
</tr>
</tbody>
</table>

Assessment: Probability or evidence of low to moderate skin sensitisation rate in humans

Sodium [1α(Z),2β(1E,3R*),3α,5α-(+/-)-7-[2-[4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl]hept-5-enoate:

| Result | Sensitiser |

Germ cell mutagenicity
Not classified based on available information.

Components:

Propylene glycol:

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Bacterial reverse mutation assay (AMES) Result: negative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative</td>
</tr>
</tbody>
</table>
Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

4-Chloro-3-methylphenol:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Sodium [1α(Z),2β(1E,3R*),3α,5α]-(+/-)-7-[2-[4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl]hept-5-enoate:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Result: negative
Test Type: Chromosomal aberration
Test system: Human lymphocytes
Result: equivocal

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Intraperitoneal
Result: negative

Carcinogenicity
Not classified based on available information.

Components:

Propylene glycol:
Species : Rat
Application Route : Ingestion
Exposure time : 2 Years
Result : negative

Sodium [1α(Z),2β(1E,3R*),3α,5α]-(+/-)-7-[2-[4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl]hept-5-enoate:
Remarks : Not classified due to lack of data.

Reproductive toxicity
Not classified based on available information.

Components:

Propylene glycol:
SAFETY DATA SHEET

Cloprostenol (with Propylene Glycol) Formulation

<table>
<thead>
<tr>
<th>Effects on fertility</th>
<th>4-Chloro-3-methylphenol:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Type: Two-generation reproduction toxicity study</td>
<td>Test Type: One-generation reproduction toxicity study</td>
</tr>
<tr>
<td>Species: Mouse</td>
<td>Species: Rat</td>
</tr>
<tr>
<td>Application Route: Ingestion</td>
<td>Application Route: Ingestion</td>
</tr>
<tr>
<td>Result: negative</td>
<td>Result: negative</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effects on foetal development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Type: Embryo-foetal development</td>
</tr>
<tr>
<td>Species: Mouse</td>
</tr>
<tr>
<td>Application Route: Ingestion</td>
</tr>
<tr>
<td>Result: negative</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sodium [1α(Z),2β(1E,3R*),3a,5a]-(+/-)-7-[2-[4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl]hept-5-enoate:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effects on fertility</td>
</tr>
<tr>
<td>Species: Rat</td>
</tr>
<tr>
<td>Application Route: Oral</td>
</tr>
<tr>
<td>General Toxicity F1: NOAEL: 0.015 mg/kg body weight</td>
</tr>
<tr>
<td>Fertility: NOAEL: &gt; 0.04 mg/kg body weight</td>
</tr>
<tr>
<td>Result: Animal testing did not show any effects on fertility.</td>
</tr>
<tr>
<td>Species: Cattle</td>
</tr>
<tr>
<td>Application Route: Intramuscular</td>
</tr>
<tr>
<td>General Toxicity - Parent: LOAEL: 0.16 µg/kg</td>
</tr>
<tr>
<td>Result: positive</td>
</tr>
<tr>
<td>Remarks: Abortion</td>
</tr>
</tbody>
</table>

| Effects on foetal development | Test Type: Development |
| Species: Rabbit |
| Application Route: Subcutaneous |
| Teratogenicity: NOAEL: 0.250 µg/kg |
| Result: No teratogenic effects |
| Test Type: Development |
| Species: Rat |
| Application Route: Oral |
| Teratogenicity: NOAEL: 100 µg/kg |
| Result: No teratogenic effects |

Reproductive toxicity - Assessment | May damage fertility.
STOT - single exposure
Not classified based on available information.

Components:

4-Chloro-3-methylphenol:
| Assessment | May cause respiratory irritation. |

Sodium [1α(Z),2β(1E,3R*),3α,5α]-(+/−)-7-[2-[4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl]hept-5-enoate:
| Target Organs | Lungs |
| Assessment | Causes damage to organs. |

STOT - repeated exposure
Not classified based on available information.

Components:

Sodium [1α(Z),2β(1E,3R*),3α,5α]-(+/−)-7-[2-[4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl]hept-5-enoate:
| Target Organs | Ovary |
| Assessment | Causes damage to organs through prolonged or repeated exposure. |

Repeated dose toxicity

Components:

Propylene glycol:
| Species | Rat, male |
| NOAEL | >= 1,700 mg/kg |
| Application Route | Ingestion |
| Exposure time | 2 yr |

4-Chloro-3-methylphenol:
| Species | Rat |
| NOAEL | 200 mg/kg |
| LOAEL | 400 mg/kg |
| Application Route | Ingestion |
| Exposure time | 28 Days |

Sodium [1α(Z),2β(1E,3R*),3α,5α]-(+/−)-7-[2-[4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl]hept-5-enoate:
| Species | Rat |
| NOAEL | 0.05 mg/kg |
| LOAEL | 0.15 mg/kg |
| Application Route | Oral |
| Exposure time | 3 Months |
| Target Organs | Ovary |
| Species | Rat |
## LOAEL
- **Species**: Monkey
- **NOAEL**: 0.05 mg/kg
- **Application Route**: Oral
- **Exposure time**: 3 Months
- **Target Organs**: Heart, Testis
- **LOAEL**: 0.15 mg/kg

## Aspiration toxicity
Not classified based on available information.

### Components:
**Sodium [1α(Z),2β(1E,3R*),3α,5α]-(+/-)-7-[2-[4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl]hept-5-enoate**
- Not applicable

## Experience with human exposure

### Components:
**Sodium [1α(Z),2β(1E,3R*),3α,5α]-(+/-)-7-[2-[4-(3-chlorophenoxy)-3-hydroxybut-1-enyl]-3,5-dihydroxycyclopentyl]hept-5-enoate**

#### General Information
- **Target Organs**: Uterus (including cervix)
- **Symptoms**: Embryo-foetal toxicity, foetal mortality, menstrual irregularities, miscarriage
- **Target Organs**: Lungs
- **Symptoms**: Asthma, bronchospasm

#### Inhalation
- **Target Organs**: Lungs
- **Symptoms**: Bronchospasm, Asthma
- **Remarks**: May cause sensitisation of susceptible persons by inhalation of aerosol or dust.
- **Target Organs**: Uterus (including cervix)
- **Symptoms**: Embryolethal effects, menstrual irregularities

#### Skin contact
- **Target Organs**: Lungs
- **Symptoms**: Bronchospasm
- **Remarks**: Can be absorbed through skin.
- **Target Organs**: Uterus (including cervix)
- **Symptoms**: Embryolethal effects
### 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Components:**

**Propylene glycol:**

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l Exposure time: 96 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EC50 (Ceriodaphnia dubia (water flea)): 18,340 mg/l Exposure time: 48 h</td>
</tr>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>ErC50 (Skeletonema costatum (marine diatom)): 19,300 mg/l Exposure time: 72 h Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)</td>
<td>NOEC (Ceriodaphnia dubia (water flea)): 13,020 mg/l Exposure time: 7 d</td>
</tr>
<tr>
<td>Toxicity to microorganisms</td>
<td>NOEC (Pseudomonas putida): &gt; 20,000 mg/l Exposure time: 18 h</td>
</tr>
</tbody>
</table>

**4-Chloro-3-methylphenol:**

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>LC50 (Oncorhynchus mykiss (rainbow trout)): 917 µg/l Exposure time: 96 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EC50 (Daphnia magna (Water flea)): 1.5 mg/l Exposure time: 48 h Method: OECD Test Guideline 202</td>
</tr>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>ErC50 (Chlorella pyrenoidosa (algae)): 15 mg/l Exposure time: 72 h Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td>EC10 (Chlorella pyrenoidosa (algae)): 2.3 mg/l Exposure time: 72 h Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td>M-Factor (Acute aquatic toxicity)</td>
<td>1</td>
</tr>
<tr>
<td>Toxicity to fish (Chronic toxicity)</td>
<td>NOEC (Oncorhynchus mykiss (rainbow trout)): 0.15 mg/l Exposure time: 28 d Method: OECD Test Guideline 204</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)</td>
<td>NOEC (Daphnia magna (Water flea)): 0.32 mg/l Exposure time: 21 d Method: OECD Test Guideline 211</td>
</tr>
<tr>
<td>Toxicity to microorganisms</td>
<td>EC50: 22.86 mg/l Exposure time: 60 h</td>
</tr>
</tbody>
</table>
Sodium \([1\alpha(Z),2\beta(1E,3R^\ast),3\alpha,5\alpha]-(+/-)-7-[2-[4-(3-chlorophenoxy)\text{-}3\text{-}hydroxybut-1\text{-}enyl]-3,5\text{-}dihydroxycyclopentyl]hept-5\text{-}enoate:\)

**Ecotoxicology Assessment**

**Acute aquatic toxicity**: Toxic effects cannot be excluded

**Chronic aquatic toxicity**: Toxic effects cannot be excluded

**Persistence and degradability**

**Components:**

**Propylene glycol:**

Biodegradability: Result: Readily biodegradable.  
Biodegradation: 98.3 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

**4-Chloro-3-methylphenol:**

Biodegradability: Result: Readily biodegradable.  
Biodegradation: 78 %  
Exposure time: 15 d  
Method: OECD Test Guideline 301

**Bioaccumulative potential**

**Components:**

**Propylene glycol:**

Partition coefficient: \(n\)-octanol/water: \(\log\text{Pow} = -1.07\)  

**4-Chloro-3-methylphenol:**

Bioaccumulation: Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 5.5 - 13  
Partition coefficient: \(n\)-octanol/water: \(\log\text{Pow} = 0.477\)

**Mobility in soil**

No data available

**Hazardous to the ozone layer**

Not applicable

**Other adverse effects**

No data available
13. DISPOSAL CONSIDERATIONS

Disposal methods
- Waste from residues: Dispose of in accordance with local regulations.
- Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product.

14. TRANSPORT INFORMATION

International Regulations

**UNRTDG**
- UN number: Not applicable
- Proper shipping name: Not applicable
- Class: Not applicable
- Subsidiary risk: Not applicable
- Packing group: Not applicable
- Labels: Not applicable

**IATA-DGR**
- UN/ID No.: Not applicable
- Proper shipping name: Not applicable
- Class: Not applicable
- Subsidiary risk: Not applicable
- Packing group: Not applicable
- Labels: Not applicable
- Packing instruction (cargo aircraft): Not applicable
- Packing instruction (passenger aircraft): Not applicable

**IMDG-Code**
- UN number: Not applicable
- Proper shipping name: Not applicable
- Class: Not applicable
- Subsidiary risk: Not applicable
- Packing group: Not applicable
- Labels: Not applicable
- EmS Code: Not applicable
- Marine pollutant: Not applicable

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not applicable for product as supplied.

**National Regulations**
Refer to section 15 for specific national regulation.

**Special precautions for user**
Not applicable
SAFETY DATA SHEET

Cloprostenol (with Propylene Glycol) Formula-
tion

Version Revision Date: SDS Number: Date of last issue: 2020/10/10
4.0 2021/08/27 5266458-00005 Date of first issue: 2019/11/14

15. REGULATORY INFORMATION

Related Regulations

Fire Service Law
Not applicable to dangerous materials / designated flammables.

Chemical Substance Control Law
Priority Assessment Chemical Substance

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propane-1,2-diol</td>
<td>106</td>
</tr>
</tbody>
</table>

Industrial Safety and Health Law

Harmful Substances Prohibited from Manufacture
Not applicable

Harmful Substances Required Permission for Manufacture
Not applicable

Substances Prevented From Impairment of Health
Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity
Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity
Not applicable

Substances Subject to be Notified Names
Not applicable

Substances Subject to be Indicated Names
Not applicable

Ordinance on Prevention of Hazards Due to Specified Chemical Substances
Not applicable

Ordinance on Prevention of Lead Poisoning
Not applicable

Ordinance on Prevention of Tetraalkyl Lead Poisoning
Not applicable

Ordinance on Prevention of Organic Solvent Poisoning
Not applicable

Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)
Not applicable

Poisonous and Deleterious Substances Control Law
Not applicable
Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof
Not applicable

High Pressure Gas Safety Act
Not applicable

Explosive Control Law
Not applicable

Vessel Safety Law
Not regulated as a dangerous good

Aviation Law
Not regulated as a dangerous good

Marine Pollution and Sea Disaster Prevention etc Law
Bulk transportation : Not classified as noxious liquid substance

Marine Pollution and Sea Disaster Prevention etc Law
Pack transportation : Not classified as marine pollutant

Narcotics and Psychotropics Control Act
Narcotic or Psychotropic Raw Material (Export / Import Permission)
Not applicable
Specific Narcotic or Psychotropic Raw Material (Export / Import permission)
Not applicable

Waste Disposal and Public Cleansing Law
Industrial waste

The components of this product are reported in the following inventories:
AICS : not determined
DSL : not determined
IECSC : not determined

16. OTHER INFORMATION

Further information

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

Date format : yyyy/mm/dd

Full text of other abbreviations
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.