SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Fosaprepitant Formulation

Manufacturer or supplier’s details
Company : MSD
Address : Rua Treze de Maio, 1161
          Campinas, São Paulo, Brazil 13106-054
Telephone : 908-740-4000
Emergency telephone : 55 19 3758 2000
E-mail address : EHSDATASTEWARD@msd.com
Telefax : 908-735-1496

Recommended use of the chemical and restrictions on use
Recommended use : Pharmaceutical

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification in accordance with ABNT NBR 14725 Standard
Acute toxicity (Oral) : Category 4
Skin irritation : Category 2
Eye irritation : Category 2A
Specific target organ toxicity - repeated exposure (Oral) : Category 2 (Reproductive organs, Prostate)
Long-term (chronic) aquatic hazard : Category 1

GHS label elements in accordance with ABNT NBR 14725 Standard
Hazard pictograms :

Signal Word : Warning
Hazard Statements :
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H373 May cause damage to organs (Reproductive organs, Prostate) through prolonged or repeated exposure if swallowed.
H410 Very toxic to aquatic life with long lasting effects.
Precautionary Statements

**Prevention:**
P260 Do not breathe dust.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.

**Response:**
P314 Get medical advice/ attention if you feel unwell.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P391 Collect spillage.

**Other hazards which do not result in classification**
May form explosive dust-air mixture during processing, handling or other means.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance / Mixture:** Mixture

**Components**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fosaprepitant</td>
<td>265121-04-8</td>
<td>Acute toxicity (Oral), Category 4, Skin irritation, Category 2, Eye irritation, Category 2A, Specific target organ toxicity - repeated exposure (Oral) (Reproductive organs, Prostate), Category 2, Long-term (chronic) aquatic hazard, Category 1</td>
<td>&gt;= 30 &lt;= 50</td>
</tr>
<tr>
<td>Disodium EDTA, dihydrate</td>
<td>6381-92-6</td>
<td>Acute toxicity (Oral), Category 5, Acute toxicity (Inhalation), Category 4, Specific target organ toxicity - repeated exposure (Respiratory Tract), Category 2</td>
<td>&gt;= 1 &lt;= 5</td>
</tr>
</tbody>
</table>

### SECTION 4. FIRST AID MEASURES

**General advice:**
In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.
### SECTION 5. FIRE-FIGHTING MEASURES

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

**Unsuitable extinguishing media**
- None known.

**Specific hazards during firefighting**
- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
- Exposure to combustion products may be a hazard to health.

**Hazardous combustion products**
- Carbon oxides
- Nitrogen oxides (NOx)
- Metal 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 fire-fighters**
- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.
SAFETY DATA SHEET

Fosaprepitant Formulation

Version: 6.1  Revision Date: 16.10.2020  SDS Number: 23897-00016  Date of last issue: 23.03.2020  Date of first issue: 21.10.2014

Personal precautions, protective equipment and emergency procedures:
- Use personal protective equipment.
- 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.
- 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:
- Sweep up or vacuum up spillage and collect in suitable container for disposal.
- Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
- Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
- 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.

SECTION 7. HANDLING AND STORAGE

Technical measures:
- Static electricity may accumulate and ignite suspended dust causing an explosion.
- Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Local/Total ventilation:
- Use only with adequate ventilation.

Advice on safe handling:
- Do not get on skin or clothing.
- Do not breathe dust.
- Do not swallow.
- Do not get in eyes.
- Wash skin thoroughly after handling.
- Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment.
- Minimize dust generation and accumulation.
- Keep container closed when not in use.
- Keep away from heat and sources of ignition.
- Take precautionary measures against static discharges.
- Do not eat, drink or smoke when using this product.
- Take care to prevent spills, waste and minimize release to the environment.

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.

Conditions for safe storage:
- Keep in properly labeled containers.
- Store in accordance with the particular national regulations.

Materials to avoid:
- Do not store with the following product types:
SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fosaprepitant</td>
<td>265121-04-8</td>
<td>TWA</td>
<td>200 µg/m³</td>
<td></td>
</tr>
</tbody>
</table>

**Engineering measures**: Ensure adequate ventilation, especially in confined areas. Minimize workplace exposure concentrations. Apply measures to prevent dust explosions. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

**Personal protective equipment**

**Respiratory protection**: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

- **Filter type**: Particulates type

**Hand protection**: Chemical-resistant gloves

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

**Eye protection**: Wear the following personal protective equipment:

- Safety goggles

**Skin and body protection**: Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc.).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**: powder

**Color**: off-white

**Odor**: odorless

**Odor Threshold**: No data available
pH : No data available
Melting point/freezing point : No data available
Initial boiling point and boiling range : No data available
Flash point : No data available
Evaporation rate : No data available
Flammability (solid, gas) : May form explosive dust-air mixture during processing, handling or other means.
Flammability (liquids) : No data available
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Vapor pressure : No data available
Relative vapor density : No data available
Relative density : No data available
Solubility(ies) Water solubility : No data available
Partition coefficient: n-octanol/water : No data available
Autoignition temperature : No data available
Decomposition temperature : No data available
Viscosity Viscosity, dynamic : No data available
Viscosity, kinematic : No data available
Explosive properties : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.
Molecular weight : No data available
Particle size : No data available

SECTION 10. STABILITY AND REACTIVITY
Reactivity: Not classified as a reactivity hazard.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions:
- May form explosive dust-air mixture during processing, handling or other means.
- Can react with strong oxidizing agents.

Conditions to avoid:
- Heat, flames and sparks.
- Avoid dust formation.

Incompatible materials:
- Oxidizing agents

Hazardous decomposition products:
- No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

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

Acute toxicity:
Harmful if swallowed.

Product:
Acute oral toxicity:
- Acute toxicity estimate: 1.435 mg/kg
  Method: Calculation method

Acute inhalation toxicity:
- Acute toxicity estimate: > 10 mg/l
  Exposure time: 4 h
  Test atmosphere: dust/mist
  Method: Calculation method

Components:
Fosaprepitant:
Acute oral toxicity:
- LD50 (Rat, female): > 500 mg/kg
- LD50 (Mouse, female): > 500 mg/kg

Disodium EDTA, dihydrate:
Acute oral toxicity:
- LD50 (Rat): 2.800 mg/kg
  Remarks: Based on data from similar materials

Acute inhalation toxicity:
- LC50 (Rat): > 1 mg/l
  Exposure time: 6 h
  Test atmosphere: dust/mist
  Method: OECD Test Guideline 412
  Remarks: Based on data from similar materials

Skin corrosion/irritation:
Causes skin irritation.

Components:
Fosaprepitant:
SAFETY DATA SHEET

Fosaprepitant Formulation

Species: Rabbit
Result: Skin irritation

Disodium EDTA, dihydrate:
Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials

Serious eye damage/eye irritation
Causes serious eye irritation.

Components:

Fosaprepitant:
Species: Bovine cornea
Result: Eye irritation

Disodium EDTA, dihydrate:
Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

Respiratory or skin sensitization

Skin sensitization
Not classified based on available information.

Respiratory sensitization
Not classified based on available information.

Components:

Disodium EDTA, dihydrate:
Test Type: Maximization Test
Routes of exposure: Skin contact
Species: Guinea pig
Result: negative
Remarks: Based on data from similar materials

Germ cell mutagenicity
Not classified based on available information.

Components:

Fosaprepitant:
Genotoxicity in vitro: Test Type: In vitro mammalian cell gene mutation test
Test system: human lymphoblastoid cells
Result: negative

Test Type: sister chromatid exchange assay
Test system: Chinese hamster ovary cells
Result: negative
### SAFETY DATA SHEET

#### Fosaprepitant Formulation

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue</th>
<th>Date of first issue</th>
</tr>
</thead>
</table>

**Test Type:** in vitro test  
**Test system:** rat hepatocytes  
**Result:** negative

**Genotoxicity in vivo**  
**Test Type:** In vivo micronucleus test  
**Species:** Mouse  
**Cell type:** Bone marrow  
**Result:** negative

#### Disodium EDTA, dihydrate:

**Genotoxicity in vitro**  
**Test Type:** Chromosome aberration test in vitro  
**Result:** negative  
**Remarks:** Based on data from similar materials

**Genotoxicity in vivo**  
**Test Type:** Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
**Species:** Mouse  
**Application Route:** Ingestion  
**Method:** OECD Test Guideline 474  
**Result:** negative  
**Remarks:** Based on data from similar materials

### Carcinogenicity

Not classified based on available information.

### Components:

#### Fosaprepitant:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat, female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>2 Years</td>
</tr>
<tr>
<td></td>
<td>50 mg/kg body weight</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Liver</td>
</tr>
<tr>
<td>Remarks</td>
<td>Benign tumor(s)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat, male and female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>2 Years</td>
</tr>
<tr>
<td></td>
<td>250 mg/kg body weight</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Liver, Thyroid</td>
</tr>
</tbody>
</table>

**Carcinogenicity - Assessment**  
**Weight of evidence does not support classification as a carcinogen**

#### Disodium EDTA, dihydrate:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>103 weeks</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>
Reproductive toxicity
Not classified based on available information.

Components:

Fosaprepitant:
Effects on fertility
Test Type: Fertility/early embryonic development
Species: Rat, male and female
Fertility: NOAEL: 2.000 mg/kg body weight
Result: negative

Effects on fetal development
Species: Rat, female
General Toxicity Maternal: NOAEL: 2.000 mg/kg body weight
Result: negative

Disodium EDTA, dihydrate:
Effects on fertility
Test Type: Four-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development
Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

STOT-single exposure
Not classified based on available information.

STOT-repeated exposure
May cause damage to organs (Reproductive organs, Prostate) through prolonged or repeated exposure if swallowed.

Components:

Fosaprepitant:
Routes of exposure: Ingestion
Target Organs: Reproductive organs, Prostate
Assessment: May cause damage to organs through prolonged or repeated exposure.

Disodium EDTA, dihydrate:
Routes of exposure: inhalation (dust/mist/fume)
Target Organs: Respiratory Tract
Assessment: Shown to produce significant health effects in animals at concentrations of >0.02 to 0.2 mg/l/6h/d.
Repeated dose toxicity

Components:

Fosaprepitant:
Species : Rat, male and female  
NOAEL : 2,000 mg/kg  
Application Route : Oral  
Exposure time : 6 Months  
Target Organs : Liver, Thyroid

Species : Dog  
LOAEL : 50 mg/kg  
Application Route : Oral  
Exposure time : 9 Months  
Target Organs : Testis

Species : Dog  
NOAEL : 32 mg/kg  
Application Route : Oral  
Exposure time : 1 y  
Remarks : No significant adverse effects were reported

Species : Rat  
NOAEL : 4 mg/kg  
Application Route : Intravenous  
Exposure time : 5 Weeks  
Remarks : No significant adverse effects were reported

Species : Dog  
NOAEL : 10 mg/kg  
Application Route : Intravenous  
Exposure time : 5 Weeks  
Remarks : No significant adverse effects were reported

Disodium EDTA, dihydrate:
Species : Rat  
NOAEL : 500 mg/kg  
Application Route : Ingestion  
Exposure time : 13 Weeks  
Remarks : Based on data from similar materials

Species : Rat  
LOAEL : 0,03 mg/l  
Application Route : inhalation (dust/mist/fume)  
Exposure time : 4 Weeks  
Remarks : Based on data from similar materials

Aspiration toxicity
Not classified based on available information.
Experience with human exposure

Components:

Fosaprepitant:
Ingestion: Symptoms: hiccups, Fatigue, liver function change, constipation, Headache, anorexia

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Fosaprepitant:
Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): > 0.462 mg/l
   Exposure time: 96 h
   Method: OECD Test Guideline 203
   Remarks: No toxicity at the limit of solubility.
   Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 0.345 mg/l
   Exposure time: 48 h
   Method: OECD Test Guideline 202
   Remarks: No toxicity at the limit of solubility.
   Based on data from similar materials

Toxicity to algae/aquatic plants: NOEC (Pseudokirchneriella subcapitata (green algae)): 0.184 mg/l
   Exposure time: 72 h
   Method: OECD Test Guideline 201
   Remarks: No toxicity at the limit of solubility.
   Based on data from similar materials

   EC50 (Pseudokirchneriella subcapitata (green algae)): > 0.184 mg/l
   Exposure time: 72 h
   Method: OECD Test Guideline 201
   Remarks: No toxicity at the limit of solubility.
   Based on data from similar materials

Toxicity to fish (Chronic toxicity): NOEC (Pimephales promelas (fathead minnow)): 0.195 mg/l
   Exposure time: 32 Days
   Method: OECD Test Guideline 210
   Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Daphnia magna (Water flea)): 0.018 mg/l
   Exposure time: 21 Days
   Method: OECD Test Guideline 211
   Remarks: Based on data from similar materials

M-Factor (Chronic aquatic toxicity): 1

Disodium EDTA, dihydrate:
### Toxicity to fish
- **LC50 (Lepomis macrochirus (Bluegill sunfish)):** 159 mg/l
  - Exposure time: 96 h
  - Remarks: Based on data from similar materials

### Toxicity to daphnia and other aquatic invertebrates
- **EC50 (Daphnia magna (Water flea)):** 140 mg/l
  - Exposure time: 48 h
  - Remarks: Based on data from similar materials

### Toxicity to algae/aquatic plants
- **EC50 (Desmodesmus subspicatus (green algae)):** > 100 mg/l
  - Exposure time: 72 h
  - Remarks: Based on data from similar materials

### Toxicity to algae/aquatic plants (NOEC)
- **NOEC (Desmodesmus subspicatus (green algae)):** 100 mg/l
  - Exposure time: 72 h
  - Remarks: Based on data from similar materials

### Toxicity to fish (Chronic toxicity)
- **NOEC (Danio rerio (zebra fish)):** 25,7 mg/l
  - Exposure time: 35 d
  - Method: OECD Test Guideline 210
  - Remarks: Based on data from similar materials

### Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
- **NOEC (Daphnia magna (Water flea)):** 25 mg/l
  - Exposure time: 21 d
  - Remarks: Based on data from similar materials

### Toxicity to microorganisms
- **EC50:** < 500 mg/l
  - Exposure time: 0,5 h
  - Method: OECD Test Guideline 209
  - Remarks: Based on data from similar materials

### Persistence and degradability

#### Components:

**Fosaprepitant:**
- Biodegradability: Result: not rapidly degradable
  - Method: OECD Test Guideline 314

**Disodium EDTA, dihydrate:**
- Biodegradability: Result: Inherently biodegradable.
  - Biodegradation: 80 - 90 %
  - Exposure time: 28 d
  - Remarks: Based on data from similar materials

### Bioaccumulative potential

#### Components:

**Fosaprepitant:**
- Bioaccumulation: Species: Lepomis macrochirus (Bluegill sunfish)
  - Bioconcentration factor (BCF): 50,1
  - Method: OECD Test Guideline 305
  - Remarks: Based on data from similar materials
Disodium EDTA, dihydrate:

Bioaccumulation:
- Species: Lepomis macrochirus (Bluegill sunfish)
- Bioconcentration factor (BCF): 1.8
- Remarks: Based on data from similar materials

Partition coefficient: n-octanol/water:
- $\log Pow: -4.3$

Mobility in soil:
- No data available

Other adverse effects:
- No data available

### SECTION 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.

### SECTION 14. TRANSPORT INFORMATION

**International Regulations**

**UNRTDG**

- UN number: UN 3077
- Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Fosaprepitant)
- Class: 9
- Packing group: III
- Labels: 9

**IATA-DGR**

- UN/ID No.: UN 3077
- Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Fosaprepitant)
- Class: 9
- Packing group: III
- Labels: Miscellaneous
- Packing instruction (cargo aircraft): 956
- Packing instruction (passenger aircraft): 956
- Environmentally hazardous: yes

**IMDG-Code**

- UN number: UN 3077
- Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Fosaprepitant)
- Class: 9
- Packing group: III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

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

Domestic regulation

ANTT
UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Fosaprepitant)
Class : 9
Packing group : III
Labels : 9
Hazard Identification Number : 90

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.

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
National List of Carcinogenic Agents for Humans - (LINACH) : Not applicable

Brazil. List of chemicals controlled by the Federal Police : Not applicable

International Regulations

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

SECTION 16. OTHER INFORMATION

Further information
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.