

## Flunixin Liquid Formulation

Version 4.0      Revision Date: 10/31/2016      SDS Number: 437374-00005      Date of last issue: 09/08/2016  
Date of first issue: 01/28/2016

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### SECTION 1. IDENTIFICATION

Product name : Flunixin Liquid Formulation

#### Manufacturer or supplier's details

Company name of supplier : Merck & Co., Inc

Address : One Merck Drive  
Whitehouse Station - New Jersey - USA 08889

Telephone : 908-423-1000

Telefax : 908-735-1496

Emergency telephone : 1-908-423-6000

E-mail address : EHSDATASTEWARD@merck.com

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

Recommended use : Veterinary product

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with 29 CFR 1910.1200

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 3

Serious eye damage : Category 1

Specific target organ  
systemic toxicity - repeated  
exposure : Category 1 (Gastrointestinal tract, Kidney, Blood)

#### GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H302 Harmful if swallowed.  
H318 Causes serious eye damage.  
H331 Toxic if inhaled.  
H372 Causes damage to organs (Gastrointestinal tract, Kidney, Blood) through prolonged or repeated exposure.

Precautionary Statements : **Prevention:**  
P260 Do not breathe mist or vapors.

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## Flunixin Liquid Formulation

Version 4.0      Revision Date: 10/31/2016      SDS Number: 437374-00005      Date of last issue: 09/08/2016  
 Date of first issue: 01/28/2016

P264 Wash skin thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 P280 Wear eye protection/ face protection.

**Response:**

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.  
 P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.  
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.  
 P314 Get medical advice/ attention if you feel unwell.

**Storage:**

P405 Store locked up.

**Disposal:**

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

**Other hazards**

None known.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

**Hazardous ingredients**

Chemical name	CAS-No.	Concentration (% w/w)
L-menthol	2216-51-5	>= 10 - < 20
2-Pyrrolidone	616-45-5	>= 10 - < 20
1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate	42461-84-7	>= 5 - < 10

### 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.

If inhaled : If inhaled, remove to fresh air.  
 If not breathing, give artificial respiration.  
 If breathing is difficult, give oxygen.  
 Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.  
 Get medical attention if symptoms occur.

## Flunixin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 09/08/2016
4.0	10/31/2016	437374-00005	Date of first issue: 01/28/2016

---

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lens, if worn.  
Get medical attention immediately.

If swallowed : If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.  
Get medical attention.  
Rinse mouth thoroughly with water.  
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : Harmful if swallowed.  
Causes serious eye damage.  
Toxic if inhaled.  
Causes damage to organs through prolonged or repeated exposure.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

Notes to physician : Treat symptomatically and supportively.

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### SECTION 5. FIRE-FIGHTING MEASURES

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

Unsuitable extinguishing media : None known.

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

Hazardous combustion products : Carbon oxides  
Fluorine compounds  
Nitrogen oxides (NO<sub>x</sub>)

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.

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

## Flunixin Liquid Formulation

Version            Revision Date:            SDS Number:            Date of last issue: 09/08/2016  
4.0                10/31/2016                437374-00005            Date of first issue: 01/28/2016

---

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.
- Environmental precautions : Discharge into the environment must be avoided. 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 diking or other appropriate containment to keep material from spreading. If diked 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.
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### SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use with local exhaust ventilation.
- Advice on safe handling : Do not breathe vapors or spray mist. Do not swallow. Do not get in eyes. Avoid prolonged or repeated contact with skin. Handle in accordance with good industrial hygiene and safety practice. Keep container tightly closed. Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:  
Strong oxidizing agents  
Organic peroxides  
Explosives  
Gases

## Flunixin Liquid Formulation

Version 4.0      Revision Date: 10/31/2016      SDS Number: 437374-00005      Date of last issue: 09/08/2016  
 Date of first issue: 01/28/2016

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate	42461-84-7	TWA	30 µg/m <sup>3</sup> (OEB 3)	Merck
		Wipe limit	300 µg/100 cm <sup>2</sup>	Merck

#### Hazardous components without workplace control parameters

Ingredients	CAS-No.
L-menthol	2216-51-5
2-Pyrrolidone	616-45-5

**Engineering measures** : Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).  
 All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.  
 Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).  
 Minimize open handling.

#### Personal protective equipment

**Respiratory protection** : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate 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,

## Flunixin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 09/08/2016
4.0	10/31/2016	437374-00005	Date of first issue: 01/28/2016

---

		<p>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.</p>
Skin and body protection	:	<p>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.</p>
Hygiene measures	:	<p>Ensure that eye flushing systems and safety showers are located 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.</p>

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	red
Odor	:	amine-like
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)	:	Not applicable
Flammability (liquids)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available

**Flunixin Liquid Formulation**

Version 4.0      Revision Date: 10/31/2016      SDS Number: 437374-00005      Date of last issue: 09/08/2016  
Date of first issue: 01/28/2016

---

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, 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

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**SECTION 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.

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**SECTION 11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

Inhalation  
Skin contact  
Ingestion  
Eye contact

**Acute toxicity**

Harmful if swallowed.  
Toxic if inhaled.

**Product:**

Acute oral toxicity : Acute toxicity estimate: 638.55 mg/kg

---

## Flunixin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 09/08/2016
4.0	10/31/2016	437374-00005	Date of first issue: 01/28/2016

---

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 0.6 mg/l  
 Exposure time: 4 h  
 Test atmosphere: dust/mist  
 Method: Calculation method

### Ingredients:

#### **L-menthol:**

Acute inhalation toxicity : LC50 (Rat): 5.289 mg/l  
 Exposure time: 4 h  
 Test atmosphere: dust/mist  
 Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg  
 Method: OECD Test Guideline 402

#### **2-Pyrrolidone:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
 Method: OECD Test Guideline 401  
 Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC0 (Rat): 0.061 mg/l  
 Exposure time: 8 h  
 Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
 Method: OECD Test Guideline 402  
 Assessment: The substance or mixture has no acute dermal toxicity

#### **1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:**

Acute oral toxicity : LD50 (Rat): 53 - 157 mg/kg  
 LD50 (Mouse): 176 - 249 mg/kg  
 LD50 (Guinea pig): 488.3 mg/kg  
 LD50 (Monkey): 300 mg/kg

Acute inhalation toxicity : LC50 (Rat): < 0.52 mg/l  
 Exposure time: 4 h  
 Test atmosphere: dust/mist

Acute toxicity (other routes of administration) : LD50 (Rat): 59.4 - 185.3 mg/kg  
 Application Route: Intraperitoneal  
 LD50 (Mouse): 164 - 363 mg/kg  
 Application Route: Intraperitoneal



## Flunixin Liquid Formulation

Version 4.0      Revision Date: 10/31/2016      SDS Number: 437374-00005      Date of last issue: 09/08/2016  
Date of first issue: 01/28/2016

---

### **Skin corrosion/irritation**

Not classified based on available information.

#### **Ingredients:**

##### **L-menthol:**

Species: Rabbit  
Method: OECD Test Guideline 404  
Result: Skin irritation

##### **2-Pyrrolidone:**

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

##### **1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:**

Species: Rabbit  
Result: Mild skin irritation

### **Serious eye damage/eye irritation**

Causes serious eye damage.

#### **Ingredients:**

##### **L-menthol:**

Species: Rabbit  
Result: Irritation to eyes, reversing within 7 days  
Method: OECD Test Guideline 405

##### **2-Pyrrolidone:**

Species: Rabbit  
Result: Irritation to eyes, reversing within 21 days

##### **1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:**

Species: Rabbit  
Result: Irreversible effects on the eye

### **Respiratory or skin sensitization**

#### **Skin sensitization**

Not classified based on available information.

#### **Respiratory sensitization**

Not classified based on available information.

#### **Ingredients:**

##### **L-menthol:**

Test Type: Local lymph node assay (LLNA)  
Routes of exposure: Skin contact  
Species: Mouse  
Method: OECD Test Guideline 429

## Flunixin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 09/08/2016
4.0	10/31/2016	437374-00005	Date of first issue: 01/28/2016

---

Result: negative

### 2-Pyrrolidone:

Test Type: Local lymph node assay (LLNA)  
 Routes of exposure: Skin contact  
 Species: Mouse  
 Method: OECD Test Guideline 429  
 Result: negative  
 Remarks: Based on data from similar materials

### 1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:

Test Type: Maximization Test  
 Routes of exposure: Dermal  
 Species: Guinea pig  
 Assessment: Does not cause skin sensitization.  
 Result: negative

### Germ cell mutagenicity

Not classified based on available information.

### Ingredients:

#### L-menthol:

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: Intraperitoneal injection  
 Method: OECD Test Guideline 474  
 Result: negative  
 Remarks: Based on data from similar materials

#### 2-Pyrrolidone:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
 Method: OECD Test Guideline 476  
 Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
 Species: Mouse  
 Application Route: Intraperitoneal injection  
 Method: OECD Test Guideline 474

### 1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
 Result: negative

: Test Type: in vitro test  
 Species: mouse lymphoma cells

## Flunixin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 09/08/2016
4.0	10/31/2016	437374-00005	Date of first issue: 01/28/2016

---

Result: positive

: Test Type: Chromosomal aberration  
Species: Chinese hamster ovary cells  
Result: positive

: Test Type: in vitro test  
Species: Escherichia coli  
Result: positive

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse  
Application Route: Oral  
Result: negative

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

### Carcinogenicity

Not classified based on available information.

### Ingredients:

#### L-menthol:

Species: Mouse  
Application Route: Ingestion  
Exposure time: 103 weeks  
Method: OECD Test Guideline 453  
Result: negative  
Remarks: Based on data from similar materials

#### **1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:**

Species: Rat  
Application Route: oral (feed)  
Exposure time: 104 w  
Result: negative  
Target Organs: Gastrointestinal tract  
Remarks: Significant toxicity observed in testing

Species: Mouse  
Application Route: oral (feed)  
Exposure time: 97 w  
Result: negative  
Target Organs: Gastrointestinal tract  
Remarks: Significant toxicity observed in testing

#### IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### OSHA

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

## Flunixin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 09/08/2016
4.0	10/31/2016	437374-00005	Date of first issue: 01/28/2016

---

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

### Reproductive toxicity

Not classified based on available information.

### Ingredients:

#### L-menthol:

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative

#### 2-Pyrrolidone:

Effects on fertility : Species: Rat  
Application Route: Ingestion  
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative

#### 1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Oral  
General Toxicity Parent: LOAEL: 1 - 1.5 mg/kg body weight  
Symptoms: No fetal abnormalities.  
Result: No effects on fertility and early embryonic development were detected.

Effects on fetal development : Test Type: Development  
Species: Rat  
Application Route: Oral  
General Toxicity Maternal: LOAEL: 2 mg/kg body weight  
Embryo-fetal toxicity.: NOAEL: 2 mg/kg body weight  
Result: Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses

Test Type: Embryo-fetal development  
Species: Rabbit  
Application Route: Oral  
General Toxicity Maternal: LOAEL: 3 mg/kg body weight  
Embryo-fetal toxicity.: NOAEL: 3 mg/kg body weight  
Result: Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses

### STOT-single exposure

Not classified based on available information.

## Flunixin Liquid Formulation

Version 4.0      Revision Date: 10/31/2016      SDS Number: 437374-00005      Date of last issue: 09/08/2016  
Date of first issue: 01/28/2016

---

### Ingredients:

#### **1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:**

Assessment: May cause respiratory irritation.

#### **STOT-repeated exposure**

Causes damage to organs (Gastrointestinal tract, Kidney, Blood) through prolonged or repeated exposure.

### Ingredients:

#### **1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:**

Target Organs: Gastrointestinal tract, Kidney, Blood

Assessment: Causes damage to organs through prolonged or repeated exposure.

#### **Repeated dose toxicity**

### Ingredients:

#### **L-menthol:**

Species: Mouse

NOAEL: 1,250 mg/kg

Application Route: Ingestion

Exposure time: 91 Days

Method: OECD Test Guideline 408

Remarks: Based on data from similar materials

#### **2-Pyrrolidone:**

Species: Rat

NOAEL: 207 mg/kg

Application Route: Ingestion

Exposure time: 3 Months

Method: OECD Test Guideline 408

#### **1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:**

Species: Rat

NOAEL: 2 mg/kg

LOAEL: < 4 mg/kg

Application Route: Oral

Exposure time: 6 w

Target Organs: Gastrointestinal tract

Species: Rat

NOAEL: 1 mg/kg

Application Route: Oral

Exposure time: 1 y

Target Organs: Gastrointestinal tract, Kidney

Species: Monkey

NOAEL: 15 mg/kg

Application Route: Oral

Exposure time: 90 d

Target Organs: Gastrointestinal tract, Blood

## Flunixin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 09/08/2016
4.0	10/31/2016	437374-00005	Date of first issue: 01/28/2016

---

Species: Rabbit  
 Application Route: Dermal  
 Exposure time: 21 d  
 Dose: 80 mg/kg  
 Symptoms: Severe irritation

Species: Dog  
 Application Route: Oral  
 Exposure time: 9 d  
 Dose: 11 mg/kg  
 Target Organs: Gastrointestinal tract  
 Symptoms: Vomiting

### Aspiration toxicity

Not classified based on available information.

### Experience with human exposure

#### Ingredients:

#### **1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:**

Inhalation	:	Symptoms: respiratory tract irritation
Skin contact	:	Remarks: May irritate skin.
Eye contact	:	Symptoms: Severe irritation
Ingestion	:	Symptoms: Gastrointestinal disturbance, bleeding, hypertension, Kidney disorders

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Ingredients:

#### **L-menthol:**

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 15.6 mg/l Exposure time: 96 h Method: Directive 67/548/EEC, Annex V, C.1.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 26.6 mg/l Exposure time: 48 h Method: Directive 67/548/EEC, Annex V, C.2.
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): 21.4 mg/l Exposure time: 72 h Method: Directive 67/548/EEC, Annex V, C.3.
		NOEC (Desmodesmus subspicatus (green algae)): 9.65 mg/l Exposure time: 72 h Method: Directive 67/548/EEC, Annex V, C.3.

**Flunixin Liquid Formulation**

Version 4.0      Revision Date: 10/31/2016      SDS Number: 437374-00005      Date of last issue: 09/08/2016  
Date of first issue: 01/28/2016

---

Toxicity to microorganisms : EC50: 237 mg/l  
Exposure time: 96 h  
Test Type: Respiration inhibition of activated sludge  
Method: OECD Test Guideline 209

**2-Pyrrolidone:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 4,600 - 10,000 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l  
Exposure time: 48 h

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): > 500 mg/l  
Exposure time: 72 h  
  
EC10 (Desmodesmus subspicatus (green algae)): 22.2 mg/l  
Exposure time: 72 h

Toxicity to microorganisms : EC50: > 1,000 mg/l  
Exposure time: 30 min  
Method: OECD Test Guideline 209

**1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:**

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 28 mg/l  
Exposure time: 96 h  
Method: FDA 4.11

LC50 (Oncorhynchus mykiss (rainbow trout)): 5.5 mg/l  
Exposure time: 96 h  
Method: FDA 4.11

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 15 mg/l  
Exposure time: 48 h  
Method: FDA 4.08

Toxicity to algae : NOEC (Microcystis aeruginosa (blue-green algae)): 97 mg/l  
Exposure time: 13 d  
Method: FDA 4.01

NOEC (Selenastrum capricornutum (green algae)): 96 mg/l  
Exposure time: 12 d

**Persistence and degradability****Ingredients:****L-menthol:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 64 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D

**Flunixin Liquid Formulation**

Version 4.0      Revision Date: 10/31/2016      SDS Number: 437374-00005      Date of last issue: 09/08/2016  
Date of first issue: 01/28/2016

---

**2-Pyrrolidone:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 98 %  
Exposure time: 9 d

**1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:**

Stability in water : Hydrolysis: 0 %(28 d)

**Bioaccumulative potential****Ingredients:****L-menthol:**

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 0.5 - 15  
Exposure time: 6 Weeks  
Method: OECD Test Guideline 305  
Remarks: Based on data from similar materials

Partition coefficient: n-octanol/water : log Pow: 3.15

**2-Pyrrolidone:**

Partition coefficient: n-octanol/water : log Pow: -0.71

**1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:**

Partition coefficient: n-octanol/water : log Pow: 1.34

**Mobility in soil****Ingredients:****1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate:**

Distribution among environmental compartments : log Koc: 1.92  
Method: OECD Test Guideline 106

**Other adverse effects**

No data available

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**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.



## Flunixin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 09/08/2016
4.0	10/31/2016	437374-00005	Date of first issue: 01/28/2016

### SECTION 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

Not regulated as a dangerous good

##### IATA-DGR

Not regulated as a dangerous good

##### IMDG-Code

Not regulated as a dangerous good

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

#### Domestic regulation

##### 49 CFR

Not regulated as a dangerous good

### SECTION 15. REGULATORY INFORMATION

#### EPCRA - Emergency Planning and Community Right-to-Know

##### CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

##### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

##### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Acute Health Hazard  
Chronic Health Hazard

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### US State Regulations

##### Pennsylvania Right To Know

Decanoic acid, mixed diesters with octanoic acid and propylene glycol	68583-51-7
Glycerides, mixed decanoyl and octanoyl mono-, di- and tri-, ethoxylated	361459-38-3
L-menthol	2216-51-5
2-Pyrrolidone	616-45-5
1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate	42461-84-7

**California Prop. 65** This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other

## Flunixin Liquid Formulation

Version 4.0      Revision Date: 10/31/2016      SDS Number: 437374-00005      Date of last issue: 09/08/2016  
 Date of first issue: 01/28/2016

reproductive defects.

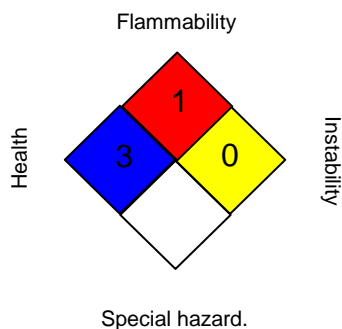
**The ingredients of this product are reported in the following inventories:**

AICS : not determined  
 DSL : not determined  
 IECSC : not determined

### SECTION 16. OTHER INFORMATION

#### Further information

##### NFPA:



##### HMIS® IV:

<b>HEALTH</b>	*	<b>3</b>
<b>FLAMMABILITY</b>	<b>1</b>	
<b>PHYSICAL HAZARD</b>	<b>0</b>	

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

#### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand

## Flunixin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 09/08/2016
4.0	10/31/2016	437374-00005	Date of first issue: 01/28/2016

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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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance 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

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Revision Date : 10/31/2016

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

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.

US / Z8