

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

### SECTION 1. IDENTIFICATION

Product name : Flunixin Liquid (with Alcohol) Formulation

#### Manufacturer or supplier's details

Company name of supplier : Merck & Co., Inc  
Address : 126 E. Lincoln Avenue  
Rahway, New Jersey U.S.A. 07065  
Telephone : 908-740-4000  
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  
Restrictions on use : Not applicable

### SECTION 2. HAZARDS IDENTIFICATION






#### GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids : Category 3  
Acute toxicity (Oral) : Category 4  
Acute toxicity (Inhalation) : Category 2  
Serious eye damage : Category 1  
Skin sensitization : Category 1  
Reproductive toxicity : Category 1B  
Specific target organ toxicity : Category 1 (Gastrointestinal tract, Kidney, Blood)  
- repeated exposure

#### Other hazards

Vapors may form explosive mixture with air.

#### GHS label elements

Hazard pictograms	:	    
Signal Word	:	Danger
Hazard Statements	:	H226 Flammable liquid and vapor. H302 Harmful if swallowed. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H330 Fatal if inhaled.

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

	H360FD May damage fertility. May damage the unborn child. H372 Causes damage to organs (Gastrointestinal tract, Kidney, Blood) through prolonged or repeated exposure.
Supplemental Hazard Statements	: Corrosive to the respiratory tract.
Precautionary Statements	: <b>Prevention:</b> P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P210 Keep away from heat, sparks, open flame and hot surfaces. No smoking. P233 Keep container tightly closed. P241 Use explosion-proof electrical, ventilating and lighting equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P260 Do not breathe mist or vapors. 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. P272 Contaminated work clothing must not be allowed out of the workplace. P280 Wear protective gloves, protective clothing, eye protection and face protection. P284 Wear respiratory protection.  <b>Response:</b> P301 + P312 + P330 IF SWALLOWED: Call a doctor if you feel unwell. Rinse mouth. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER. 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. P308 + P313 IF exposed or concerned: Get medical attention. P333 + P313 If skin irritation or rash occurs: Get medical attention.  <b>Storage:</b> P403 + P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.  <b>Disposal:</b> P501 Dispose of contents and container to an approved waste disposal plant.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version 10.0      Revision Date: 06/17/2025      SDS Number: 954162-00024      Date of last issue: 04/14/2025  
Date of first issue: 10/28/2016

Substance / Mixture : Mixture

### Components

Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
2-Pyrrolidone	616-45-5*	$\geq 15 - \leq 40$	TSC
Benzyl alcohol	100-51-6*	$\geq 10 - \leq 30$	TSC
1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate	42461-84-7*	$\geq 10 - \leq 30$	TSC
L-Menthol	2216-51-5*	$\geq 7 - \leq 13$	TSC
Propan-2-ol	67-63-0*	$\geq 5 - \leq 10$	TSC

\* Indicates that the identifier is a CAS No.

TSC- the actual concentration or concentration range is withheld as a trade secret

## 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 immediately.
- In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.  
Remove contaminated clothing and shoes.  
Get medical attention.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.
- 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.  
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.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
Fatal if inhaled.  
May damage fertility. May damage the unborn child.  
Causes damage to organs through prolonged or repeated exposure.  
Corrosive to the respiratory tract.

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

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 (see section 8).
Notes to physician	:	Treat symptomatically and supportively.

### SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO <sub>2</sub> ) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire fighting	:	Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapors may form explosive mixtures with air. 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.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Only trained personnel should re-enter the area. Remove all sources of ignition. 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	:	Non-sparking tools should be used.

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

containment and cleaning up

Soak up with inert absorbent material.  
Suppress (knock down) gases/vapors/mists with a water spray jet.  
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.

### SECTION 7. HANDLING AND STORAGE

Technical measures	:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation	:	If sufficient ventilation is unavailable, use with local exhaust ventilation. Use explosion-proof electrical, ventilating and lighting equipment.
Advice on safe handling	:	Do not get on skin or clothing. Do not breathe mist or vapors. 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 Non-sparking tools should be used. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. 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.
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. Keep away from heat and sources of ignition.
Materials to avoid	:	Do not store with the following product types: Strong oxidizing agents Self-reactive substances and mixtures Organic peroxides Flammable liquids Flammable solids Pyrophoric liquids

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version 10.0      Revision Date: 06/17/2025      SDS Number: 954162-00024      Date of last issue: 04/14/2025  
Date of first issue: 10/28/2016

Pyrophoric solids  
Self-heating substances and mixtures  
Substances and mixtures which in contact with water emit flammable gases  
Explosives  
Gases  
Very acutely toxic substances and mixtures

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Benzyl alcohol	100-51-6	TWA	10 ppm	US WEEL
1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate	42461-84-7	TWA	40 µg/m <sup>3</sup> (OEB 3)	Internal
Further information: Skin				
		Wipe limit	400 µg/100 cm <sup>2</sup>	Internal
Propan-2-ol	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		ST	500 ppm 1,225 mg/m <sup>3</sup>	NIOSH REL
		TWA	400 ppm 980 mg/m <sup>3</sup>	NIOSH REL
		TWA	400 ppm 980 mg/m <sup>3</sup>	OSHA Z-1

#### Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Propan-2-ol	67-63-0	Acetone	Urine	End of shift at end of work-week	40 mg/l	ACGIH BEI

**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.

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

Use explosion-proof electrical, ventilating and lighting equipment.

### 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. Take note that the product is flammable, which may impact the selection of hand protection.

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.

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. Contaminated work clothing should not be allowed out of the workplace. 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.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : yellow

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

---

Odor	:	mint-like
Odor Threshold	:	No data available
pH	:	8.0
Melting point/freezing point	:	< -4 °F / < -20 °C
Initial boiling point and boiling range	:	No data available
Flash point	:	109.99 °F / 43.33 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
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
Density	:	1.05 g/cm <sup>3</sup>
Solubility(ies) Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable
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 characteristics	:	



# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

Particle size : Not applicable

### SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Flammable liquid and vapor. Vapors may form explosive mixture with air. Can react with strong oxidizing agents.
Conditions to avoid	:	Heat, flames and sparks.
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.  
Fatal if inhaled.

#### Product:

Acute oral toxicity : Acute toxicity estimate: 302.84 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 0.3055 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

#### Components:

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

##### **Benzyl alcohol:**

Acute oral toxicity	:	LD50 (Rat): 1,200 mg/kg
---------------------	---	-------------------------

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

Acute inhalation toxicity : LC50 (Rat): > 5.4 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation 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

### 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

### Propan-2-ol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 25 mg/l  
Exposure time: 6 h  
Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

### Skin corrosion/irritation

Not classified based on available information.

### Components:

### 2-Pyrrolidone:

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

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

### Benzyl alcohol:

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

### L-Menthol:

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

### Propan-2-ol:

Species	: Rabbit
Result	: No skin irritation

### Serious eye damage/eye irritation

Causes serious eye damage.

### Components:

#### 2-Pyrrolidone:

Species	: Rabbit
Result	: Irritation to eyes, reversing within 7 days

### Benzyl alcohol:

Species	: Rabbit
Result	: Irritation to eyes, reversing within 21 days
Method	: OECD Test Guideline 405

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

Species	: Rabbit
Result	: Irreversible effects on the eye

### L-Menthol:

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

### Propan-2-ol:

Species	: Rabbit
---------	----------

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

||Result : Irritation to eyes, reversing within 21 days

### Respiratory or skin sensitization

#### Skin sensitization

May cause an allergic skin reaction.

#### Respiratory sensitization

Not classified based on available information.

#### Components:

##### 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

##### Benzyl alcohol:

Test Type	: Human repeat insult patch test (HRIPT)
Routes of exposure	: Skin contact
Species	: Humans
Result	: positive

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

##### 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

##### L-Menthol:

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

##### Propan-2-ol:

Test Type	: Buehler Test
Routes of exposure	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: negative

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

### Germ cell mutagenicity

Not classified based on available information.

### Components:

#### 2-Pyrrolidone:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative  Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative Remarks: Based on data from similar materials  Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 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 Result: negative

#### Benzyl alcohol:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative
Genotoxicity in vivo	: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Intraperitoneal injection Result: negative

#### 1-deoxy-1-(methlamino)-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 Test system: mouse lymphoma cells Result: positive  Test Type: Chromosomal aberration Test system: Chinese hamster ovary cells Result: positive  Test Type: in vitro test Test system: Escherichia coli Result: positive
Genotoxicity in vivo	: Test Type: Micronucleus test Species: Mouse

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

	Application Route: Oral
	Result: negative
Germ cell mutagenicity - Assessment	: Weight of evidence does not support classification as a germ cell mutagen.

### 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

### Propan-2-ol:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES)
	Result: negative
	Test Type: In vitro mammalian cell gene mutation test
	Result: negative
Genotoxicity in vivo	: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
	Species: Mouse
	Application Route: Intraperitoneal injection
	Result: negative

### Carcinogenicity

Not classified based on available information.

### Components:

#### 2-Pyrrolidone:

Species	: Mouse
Application Route	: Ingestion
Exposure time	: 18 month(s)
Result	: negative
Remarks	: Based on data from similar materials

#### Benzyl alcohol:

Species	: Mouse
Application Route	: Ingestion
Exposure time	: 103 weeks
Method	: OECD Test Guideline 451
Result	: negative

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

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

Species	: Rat
Application Route	: oral (feed)
Exposure time	: 104 w
LOAEL	: 2 mg/kg body weight
Result	: negative
Target Organs	: Gastrointestinal tract
Remarks	: Significant toxicity observed in testing

Species	: Mouse
Application Route	: oral (feed)
Exposure time	: 97 w
NOAEL	: 0.6 mg/kg body weight
Result	: negative
Target Organs	: Gastrointestinal tract
Remarks	: Significant toxicity observed in testing

### 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

### Propan-2-ol:

Species	: Rat
Application Route	: inhalation (vapor)
Exposure time	: 104 weeks
Method	: OECD Test Guideline 451
Result	: negative

**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 component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**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

May damage fertility. May damage the unborn child.

### Components:

#### 2-Pyrrolidone:

Effects on fertility	: Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: positive Remarks: Based on data from similar materials
----------------------	--

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

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

Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, based on animal experiments., Clear evidence of adverse effects on development, based on animal experiments.

### Benzyl alcohol:

Effects on fertility : Test Type: Fertility/early embryonic development  
Species: Rat  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Mouse  
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

### L-Menthol:

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



# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

|| Result: negative

### Propan-2-ol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative

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

### STOT-single exposure

Corrosive to the respiratory tract.

### Components:

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

|| Assessment : May cause respiratory irritation.

### Propan-2-ol:

|| Assessment : May cause drowsiness or dizziness.

### STOT-repeated exposure

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

### Components:

#### 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

### Components:

#### 2-Pyrrolidone:

|| Species : Rat  
|| NOAEL : 207 mg/kg  
|| Application Route : Ingestion  
|| Exposure time : 3 Months  
|| Method : OECD Test Guideline 408

#### Benzyl alcohol:

|| Species : Rat  
|| NOAEL : 1.072 mg/l  
|| Application Route : inhalation (dust/mist/fume)  
|| Exposure time : 28 Days

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

Method : OECD Test Guideline 412

### 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

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

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

### 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

### Propan-2-ol:

Species : Rat  
NOAEL : 12.5 mg/l  
Application Route : inhalation (vapor)  
Exposure time : 104 Weeks

### Aspiration toxicity

Not classified based on available information.

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

### Experience with human exposure

#### Components:

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

Inhalation	: Symptoms: respiratory tract irritation
Skin contact	: Symptoms: Skin irritation
Eye contact	: Symptoms: Severe irritation
Ingestion	: Symptoms: Gastrointestinal disturbance, bleeding, hypertension, Kidney disorders

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### **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/aquatic plants	: ErC50 (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

##### **Benzyl alcohol:**

Toxicity to fish	: LC50 (Pimephales promelas (fathead minnow)): 460 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 230 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: EC50 (Pseudokirchneriella subcapitata (green algae)): 770 mg/l Exposure time: 72 h Method: OECD Test Guideline 201  NOEC (Pseudokirchneriella subcapitata (green algae)): 310 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 51 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

### 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/aquatic plants : 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

### 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/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 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.  
  
Toxicity to microorganisms : EC50: 237 mg/l  
Exposure time: 96 h  
Test Type: Respiration inhibition of activated sludge  
Method: OECD Test Guideline 209

### Propan-2-ol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 9,640 mg/l  
Exposure time: 96 h  
  
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l  
Exposure time: 24 h

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

Toxicity to microorganisms : EC50 (*Pseudomonas putida*): > 1,050 mg/l  
Exposure time: 16 h

### Persistence and degradability

#### Components:

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

Biodegradability : Result: Readily biodegradable.  
Remarks: Based on data from similar materials

##### **Benzyl alcohol:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 92 - 96 %  
Exposure time: 14 d

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

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

##### **L-Menthol:**

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

##### **Propan-2-ol:**

Biodegradability : Result: rapidly degradable  
BOD/COD : BOD: 1,19 (BOD5)  
COD: 2,23  
BOD/COD: 53 %

### Bioaccumulative potential

#### Components:

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

Partition coefficient: n-octanol/water : log Pow: -0.71  
Method: OECD Test Guideline 107

##### **Benzyl alcohol:**

Partition coefficient: n-octanol/water : log Pow: 1.05

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

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

##### **L-Menthol:**

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

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

### Propan-2-ol:

Partition coefficient: n-octanol/water : log Pow: 0.05

### Mobility in soil

### Components:

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

Distribution among environmental compartments : log Koc: 1.92

### Other adverse effects

No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Dispose of in accordance with local regulations.  
Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Empty containers retain residue and can be dangerous.  
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.  
If not otherwise specified: Dispose of as unused product.

## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### UNRTDG

UN number : UN 1993  
Proper shipping name : FLAMMABLE LIQUID, N.O.S.  
(Propan-2-ol)  
Class : 3  
Packing group : III  
Labels : 3  
Environmentally hazardous : no

#### IATA-DGR

UN/ID No. : UN 1993  
Proper shipping name : Flammable liquid, n.o.s.  
(Propan-2-ol)

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

Class	:	3
Packing group	:	III
Labels	:	Flammable Liquids
Packing instruction (cargo aircraft)	:	366
Packing instruction (passenger aircraft)	:	355

### IMDG-Code

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (Propan-2-ol)

Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, <u>S-E</u>
Marine pollutant	:	no

### Transport in bulk according to IMO instruments

Not applicable for product as supplied.

### Domestic regulation

#### 49 CFR

UN/ID/NA number	:	NA 1993
Proper shipping name	:	Combustible liquid, n.o.s. (Propan-2-ol)
Class	:	CBL
Packing group	:	III
Labels	:	NONE
ERG Code	:	128
Marine pollutant	:	no
Remarks	:	Above applies only to containers over 119 gallons or 450 liters. Not regulated if shipped in packages less than or equal to 119 gallons (450 liters). If transporting by vessel or aircraft, unless other means of transportation is impracticable, then the product must be shipped as a flammable liquid.

### 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

### 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	:	Flammable (gases, aerosols, liquids, or solids)
----------------------	---	---

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

Acute toxicity (any route of exposure)  
Respiratory or skin sensitization  
Reproductive toxicity  
Specific target organ toxicity (single or repeated exposure)  
Serious eye damage or eye irritation

### SARA 313

: The following components are subject to reporting levels established by SARA Title III, Section 313:

Propan-2-ol	67-63-0	>= 5 - < 10 %
-------------	---------	---------------

### US State Regulations

#### Pennsylvania Right To Know

2-Pyrrolidone	616-45-5
Benzyl alcohol	100-51-6
1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate	42461-84-7
L-Menthol	2216-51-5
Decanoic acid, mixed diesters with octanoic acid and propylene glycol	68583-51-7
Propan-2-ol	67-63-0

#### California List of Hazardous Substances

Propan-2-ol	67-63-0
-------------	---------

#### California Permissible Exposure Limits for Chemical Contaminants

Propan-2-ol	67-63-0
-------------	---------

#### 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



# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

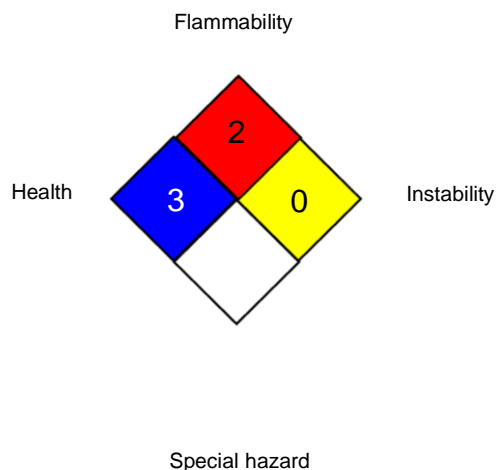
Version  
10.0

Revision Date:  
06/17/2025

SDS Number:  
954162-00024

Date of last issue: 04/14/2025  
Date of first issue: 10/28/2016

### NFPA 704:



### HMIS® IV:

HEALTH	*	3
FLAMMABILITY		2
PHYSICAL HAZARD		0

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

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
US WEEL	:	USA. Workplace Environmental Exposure Levels (WEEL)
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA Z-1 / TWA	:	8-hour time weighted average
US WEEL / TWA	:	8-hr TWA

AIIC - Australian Inventory of Industrial Chemicals; 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 Pre-

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Flunixin Liquid (with Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
10.0	06/17/2025	954162-00024	Date of first issue: 10/28/2016

---

vention 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 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; 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

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 : 06/17/2025

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