

**SAFETY DATA SHEET**  
**Furosemide Injection**

122000011449

Version 1.0

Revision Date 05/07/2014

**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****Product information**

**Product Name:** Furosemide Injection  
**MSDS Number:** 122000011449

**Use** : veterinary medicine

**Company**

BAYER HEALTHCARE LLC  
Animal Health Division  
12707 Shawnee Mission Parkway  
(West 63rd)  
Shawnee, KS 66216-1846  
USA  
(800) 633-3796

**In case of emergency:** (800) 422-9874  
Chemtrec: (800) 424-9300  
BAYER INFORMATION PHONE: (800) 633-3796  
INTERNATIONAL: (703) 527-3887


**2. HAZARDS IDENTIFICATION****Emergency Overview**

**Form:** liquid  
Causes serious eye irritation.

**GHS Classification:**

**Eye irritation** : Category 2  
**Carcinogenicity** : Category 2  
**Reproductive toxicity** : Category 2

**GHS Label element:**

**Hazard pictograms** : 

**Signal word** : Warning

**Hazard statements** : H319 Causes serious eye irritation.  
H351 Suspected of causing cancer.

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H361 Suspected of damaging fertility or the unborn child.

### Precautionary statements

#### : Prevention:

P201 Obtain special instructions before use.

P280 Wear protective gloves/ eye protection/ face protection.

P281 Use personal protective equipment as required.

#### Response:

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

#### Disposal:

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

### Other hazards which do not result in classification:

None known.

### Hazard Communication (29CFR 1910.1200)

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Weight percent	Components	CAS-No.
3 - 12%	Furosemid	54-31-9
1 - 5%	diethanolamine	111-42-2

## 4. FIRST AID MEASURES

**General advice:** Take off all contaminated clothing immediately.

**If inhaled:** Remove to fresh air. If symptoms persist, call a physician.

**In case of skin contact:** After contact with skin, wash immediately with plenty of soap and water. If skin reactions occur, contact a physician.

**In case of eye contact:** In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**If swallowed:** If swallowed, seek medical advice immediately and show this container or label.

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**Contact Number:** Use the Bayer Emergency Number in Section 1

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### 5. FIREFIGHTING MEASURES

**Suitable extinguishing media:** Any

**Specific hazards during firefighting:** Fire may cause evolution of: Carbon monoxide (CO)  
Carbon dioxide (CO<sub>2</sub>)

**Special protective equipment for firefighters:** In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

**Further information:** Prevent fire extinguishing water from contaminating surface water or the ground water system.

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### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment.

**Methods for cleaning up:** Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

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### 7. HANDLING AND STORAGE

**Handling:**

Industrial uses: Only handle product with local exhaust ventilation. Avoid contact with skin, eyes and clothing.

Avoid dust formation.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**diethanolamine (111-42-2)**

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 1 mg/m<sup>3</sup> (Inhalable fraction and vapor.)

US. ACGIH Threshold Limit Values

Skin designation: (Inhalable fraction and vapor.) Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Recommended exposure limit (REL): 3 ppm, 15 mg/m<sup>3</sup>

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### Respiratory protection:

Recommended Filter type: HEPA

### Hand protection:

Chemically resistant gloves.

### Eye protection:

Safety glasses

### Other protective measures:

No special safety precautions are required during handling of pharmaceuticals in their intended finished form (tablets or liquid formulations) by chemists, the hospital's medical staff or patients.

Wear suitable protective equipment.

For the intake of ready for use pharmaceuticals or the external use on the skin please read the label and the package leaflet.

Please consult label for end-user requirements.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	liquid
Colour:	No applicable information is available
Odour:	No applicable information is available
Odour Threshold:	No applicable information is available
Melting point:	No applicable information is available
Boiling point/boiling range:	No applicable information is available
Density:	1.033 g/cm <sup>3</sup> at 68 °F (20 °C)
Bulk density:	No applicable information is available
Vapour pressure:	No applicable information is available
Viscosity, dynamic:	No applicable information is available
Viscosity, kinematic:	No applicable information is available
Flow time:	No applicable information is available
Surface tension:	No applicable information is available
Miscibility with water:	No applicable information is available
Water solubility:	No applicable information is available
pH:	No applicable information is available
Relative density:	No applicable information is available
Partition coefficient:	No applicable information is available
Solubility(ies):	No applicable information is available
Flash point:	No applicable information is available
Flammability (solid, gas):	No applicable information is available
Ignition temperature:	No applicable information is available
Explosion limits:	No applicable information is available

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**10. STABILITY AND REACTIVITY**

**Conditions to avoid:** no data available

**Materials to avoid:** Oxidizing agents

**Hazardous reactions:** None known.

**Thermal decomposition:**

no data available

**Hazardous decomposition products:**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

**Oxidizing properties:**

No statements available.

**Impact Sensitivity:**

no data available

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**11. TOXICOLOGICAL INFORMATION**

**Other information on toxicity:**

diethanolamine

Under special conditions Nitrosamine formation is possible. Nitrosamines have been found to be carcinogenic in animal tests.

**Acute oral toxicity:**

Furosemid

LD50 rabbit: 800 mg/kg

LD50 rat: 2,600 mg/kg

diethanolamine

LD50 rat: 676 mg/kg

**Acute dermal toxicity:**

diethanolamine

LD50 rabbit: 8,328 mg/kg

The substance or mixture has no acute dermal toxicity

**Acute toxicity (other routes of administration):**

Furosemid

LD50 intraperitoneal rat: 800 mg/kg

LD50 subcutaneous rat: 4,600 mg/kg

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LD50 intravenous rat: 800 mg/kg

diethanolamine

LD50 intraperitoneal rat: 120 mg/kg

LD50 subcutaneous rat: 2,200 mg/kg

**Skin irritation:**

Furosemid

Result: May cause eye and skin irritation.

diethanolamine

Result: Causes skin irritation.

**Eye irritation:**

diethanolamine

Result: Causes serious eye damage.

**Genotoxicity in vitro:**

diethanolamine

Ames test Salmonella typhimurium

Result: negative

**Genotoxicity in vivo:**

diethanolamine

Micronucleus test,

Result: negative

**Reproductive toxicity:**

Furosemid

Result: Suspected of damaging fertility.

**Pharmaceutic effects:**

Furosemid

Diuretic drug

**CMR Assessment:**

Furosemid

Carcinogenicity: Suspected of causing cancer.

**Carcinogenicity:**

No Carcinogenic substances as defined by IARC, NTP and/or OSHA

**STOT - single exposure:**

**Components:**

111-42-2 :

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

**STOT - repeated exposure:**

**Components:**

111-42-2 :

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Assessment: May cause damage to organs through prolonged or repeated exposure.

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## 12. ECOLOGICAL INFORMATION

### General advice:

Do not allow to enter surface waters or groundwater.

### Toxicity to fish:

diethanolamine

static test: LC50 > 589 mg/l

Test species: Cyprinodon sp. (minnow) Duration of test: 96 h

Method: US-EPA

static test: NOEC 589 mg/l

Test species: Cyprinodon sp. (minnow) Duration of test: 96 h

Method: US-EPA

LC50 1,400 mg/l

Test species: Gambusia affinis (Mosquito fish) Duration of test: 96 h

### Toxicity to daphnia and other aquatic invertebrates:

diethanolamine

EC50 55 mg/l

Test species: Daphnia magna (Water flea) Duration of test: 48 h

Method: US-EPA

EC50 110 mg/l

Test species: Daphnia magna (Water flea) Duration of test: 48 h

### Toxicity to algae:

diethanolamine

Growth inhibition NOEC 17 mg/l

tested on: Microcystis aeruginosa Duration of test: 8 d

Method: OECD Test Guideline 201

IC50 75 mg/l

tested on: Desmodesmus subspicatus (green algae) Duration of test: 72 h

### Biodegradability:

diethanolamine

94 %, 30 d rapidly biodegradable

Method: OECD TG 301 D

### Bioaccumulation:

diethanolamine

Bioaccumulation is unlikely.

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### 13. DISPOSAL CONSIDERATIONS

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

Waste disposal should be in accordance with existing federal, state and local environmental control laws.

### 14. TRANSPORT INFORMATION

#### Land transport (CFR)

**Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains DIETHANOLAMINE)  
**Hazard Class or Division:** 9  
**UN/NA Number:** UN3082  
**Packaging group:** III  
**Hazard Label(s):** Class 9  
**Marine Pollutant:** Marine pollutant

#### US Sea transport (IMDG)

**Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains DIETHANOLAMINE)  
**Hazard Class or Division:** 9  
**UN number:** UN3082  
**Packaging group:** III  
**Hazard Label(s):** MISCELLANEOUS  
**Marine Pollutant:** Marine pollutant

#### US Air transport (ICAO / IATA cargo aircraft only)

**Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains DIETHANOLAMINE)  
**Hazard Class or Division:** 9  
**UN/ID Number:** UN3082  
**Packaging group:** III  
**Hazard Label(s):** MISCELLANEOUS  
**Marine Pollutant:** Marine pollutant

#### US Air transport (ICAO / IATA passenger and cargo aircraft)

**Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains DIETHANOLAMINE)  
**Hazard Class or Division:** 9  
**UN/ID Number:** UN3082  
**Packaging group:** III  
**Hazard Label(s):** MISCELLANEOUS  
**Marine Pollutant:** Marine pollutant

**International IATA** --  
**IMDG** --



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**15. REGULATORY INFORMATION**

**Other regulations:** No statements available.

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)**

**Components**

None

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required**

**Components**

diethanolamine

**US. EPA CERCLA Hazardous Substances (40 CFR 302) Components**

diethanolamine

Reportable quantity: 100 lbs

**Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists**

Weight percent	Components	CAS-No.
1 - 5%	diethanolamine	111-42-2

**New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous Substances Lists**

Weight percent	Components	CAS-No.
1 - 5%	diethanolamine	111-42-2

**California Prop. 65**

**To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.**

**OSHA Hazcom Standard Rating**      Hazardous

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**16. OTHER INFORMATION**

Chapter 14: The classification refers to the unpacked bulk material, for products packed for retail sale exemptions might apply

**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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and

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may not be valid for such material used in combination with any other materials or in any process,  
unless specified in the text.