

MATERIAL SAFETY DATA SHEET

Product Name: Furosemide

Ref. No.: MSDS- Furosemide

Rev No:03

Effective Date:02-07-2019

1.0 Identification of the substance / Company Information

a) Product Name: Furosemide

b) Other means of identification:

Chemical Formula: C₁₂H₁₁ClN₂O₅S

Chemical Name: Benzoic acid, 5-(aminosulfonyl)-4-Chloro-2-[(2-furanylmethyl)amino]-; 4-Chloro-N-furfuryl-5-sulfamoylanthranilic acid.

Synonym(s): 4-Chloro-2-[(furan-2-ylmethyl) amino]-5-sulfamoyl benzoic acid.

C.A.S.No : [54-31-9]

c) Identification of manufacturer / supplier Address:

SRI KRISHNA PHARMACEUTICALS LIMITED,
Unit-IV, Survey No: 296/7/10, IDA Bollaram, Jinnaram Mandal, Sangareddy Dist. –
502 325 -Telangana, India.
Information Provided by / Telephone
For non-emergency assistance
Call: **+91-8458-279296** Fax: **+91-08458-279295**

d) For emergency assistance Call: +44-171-9555095370

2.0 Hazard(s) identification

a) GHS Hazards Classification (According to EU Regulation 1272/2008 [CLP])

Reproductive Toxicity, (Category 2)- H361

Suspected of damaging fertility or the unborn child.

Full text hazard classes and H-statements: see section 16

b) GHS Label elements, including precautionary statements

See section-15

c) Hazards not otherwise classified (HNOC) or not covered by GHS – None

3.0 Composition / Information on ingredients

a) Name: Furosemide

b) Synonym(s): 4-Chloro-2-[(furan-2-ylmethyl)amino]-5-sulfamoyl benzoic acid.

c) C.A.S.No : [54-31-9]

d) Composition: Not applicable

e) Mixtures: Not applicable

Full text of H-statement: see section 16

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4.0 First Aid Measures

a) Eye Contact:

Rinse eye with water as precaution. If eye irritation persists: Get medical advice/attention.

b) Skin Contact:

Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

c) Inhalation:

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

d) Ingestion:

Get immediate medical advice/attention. Rinse mouth. Do not induce vomiting.

e) Most important symptoms and effects, both acute and delayed

Nausea, Vomiting, Diarrhea, Gastric or intestinal disorders, Dizziness, Headache, Visual disturbance, Redness of the skin.

Indication of immediate medical attention and special treatment needed:

Treat Symptomatically.

5.0 Fire-fighting measures

a) Suitable Extinguishing Media:

CO₂, extinguishing powder or water spray. Use fire fighting measures suiting the environment.

b) Special Hazards Arising from the Substance or Mixture:

Carbon monoxide(CO), Carbon dioxide(CO₂), Sulphur oxide(SO₂), Hydrogen chloride (HCl)

c) Special protective equipment & precautions for fire-fighters:

Wear Self contained breathing apparatus; Complete protective clothing for firefighting if necessary.

d) Further Information:

Do not allow run-off from fire fighting to enter drain or water sources.

6.0 Accidental release measures

a) Personal precautions, protective equipment and emergency procedures

Ensure adequate air ventilation. Avoid dust formation. Water breathing, Wear protective clothing. Wear respiratory protective device. For personal protection see section 8.

For non-emergency personnel:

Protective equipment

: Concerning personnel protective equipment to use, see section 8

Emergency procedures

: Ventillate spillage area. Do not breath dust. Prohibit unauthorized persons.

Measures in case of dust release

: Provide adequate ventilation to minimize dust concentration. Do not breath dust.

For emergency responders:

Protective equipment

: Do not attempt to take action without suitable equipment. For future information refer to section 8. "Exposure control/personal protection".

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b) Environmental precautions:

Avoid subsoil penetration. Notify authorities if liquid enters sewers or public waters

c) Methods and materials for containment and cleaning up:

Methods for cleaning up : Mechanically recover the product. Notify authorities if liquid enters sewers or public waters.

Other information : Showel into suitable and closed containers for disposal.

d) Reference to other sections: For further information refer to section 13. Concerning personal protective equipment to use, see section 8. Information for safe handling see Heading 7.

7.0 Handling and storage

a) Precautions for safe handling:

Additional hazards when processed: : Potential dust explosion hazard.

Precautions for safe handling : Handle product only in closed system or provide appropriate exhaust ventilation. Obtain special instruction before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin.

Hygiene measures : Do not eat drink or smoke when using this product. Do not breathe dust. Always wash hands after handling the product.



Keep ignition sources away – Do not smoke

b) Conditions for safe storage, including any incompatibilities:

Storage condition : Preserve in well-closed, Light resistant containers..

Storage temperature : Store at 25°C, Excursions permitted between 15-30°C

8.0 Exposure controls/personal protection

Control parameters:

Components with workplace control parameters :

Observe general threshold limit for dust.

Exposure controls :

Appropriate engineering controls

Use process enclosures, local exhaust ventilation, or other engineering controls to control air borne levels below recommended exposure limits.

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Personal protective equipment :

Respiratory Protection:

If dust is formed

: Wear respiratory protection. Particle filter P2



. Filter P2

Materials for protective clothing :Use protective clothing

Hand protection:

Chemical resistant gloves (EN 374) or equivalent.

For undissolved solid substances following materials may be suitable.

Nitrile rubber, NBR, Butyl rubber, BR, Polychloroprene rubber(CR)

Fluorocarbon rubber (FKM)

Penetration time of glove material:

The exact penetration time has to be found out by the manufacturer of the protective gloves and as to be observed

Eye protection: Safety goggles.

Skin and body protection: Wear suitable protective clothing.

Environmental exposure control: Avoid release to the environment.

9.0 Physical and chemical properties

| | |
|---|----------------------|
| Physical state | : Solid |
| Appearance | : Powder |
| Colour | : White yellowish |
| Odour | : Odourless |
| Odour threshold | : Not applicable |
| pH | : No data available. |
| Relative evaporation rate(butyl acetate=1) | : No data available |
| Melting point | :203-205 °C |
| Boiling point | : No data available |
| Flash point | : Not applicable |
| Auto-ignition temperature | : Not applicable |
| Decomposition temperature | : No data available |
| Flammability (solid.gas) | : Non flammable |
| Vapour pressure | : No data available |
| Relative vapour density at 20oC | : No data available |
| Relative density | : Not applicable |
| Solubility | : Insoluble |
| Lof Pow | : 2.03 |
| Viscosity, kinematic | : Not applicable |
| Viscosity, dynamic | : No data available |
| Explosive property | : No data available |
| Oxidising property | : No data available |
| Explosive limits | : Not applicable |

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Other information

: No additional information available.

10.0 Stability and Reactivity

Reactivity

No dangerous reactions known.

Chemical stability:

Stable under normal conditions

Possibility of hazardous reactions

No dangerous reaction known under normal conditions

Conditions to avoid

None under recommended storage and handling conditions (see section 7)

Incompatible materials

Strong oxidants

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produces

11.0 Toxicological information

Oral Rat : LD50: 2000 mg/kg.

Oral Mouse : Not classified

Irritancy Data : Not classified

Target Organ (s): Not classified

Other information:

Acute toxicity

: Not classified.

Skin corrosion/irritation

:Not classified

Serious eye damage/irritation

:Not classified

Respiratory or skin sensitization

:Not classified

Germ cell mutagenicity

:Not classified (Mutagenicity: Ames test: negative)

Carcinogenicity

:Not classified

Additional information

:Cancer suspected agent

Reproductive toxicity

: Suspected of damaging fertility; Suspected of damaging the unborn child.

Additional information

:Teratogenic effects may be possible (animal Experiment)

Specific target organ toxicity (single exposure)

:Not classified

Specific target organ toxicity (repeated exposure)

:Not classified

Aspiration hazard

:Not classified

12.0 Ecological information

Eco toxicity

The product is not considered harmful to aquatic organism nor to cause long term adverse effect in the environment

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Persistence and degradability

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Bio accumulative potential

Log Pow : 2.03

Mobility in soil :

No additional information available

Results of PBT and vPvB assessment:

PBT/vPvB assessment not available as chemical safety assessment not required.

Other adverse effects :

No additional information available

13.0 Disposal considerations

Product:

Can be disposed of in accordance with the regulations and in consultation with the disposal agency and the relevant authorities.

Un cleaned Packaging:

Uncontaminated packaging may be taken for recycling.

Waste treatment methods: Disposal should be done as per the official regulations.

14.0 Transport information

| ADR | IMDG | IATA | ADN | RID |
|---|----------------|----------------|----------------|----------------|
| 14.1 UN-Number | | | | |
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| 14.2 UN proper shipping name | | | | |
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| 14.3 Transport hazard class(es) | | | | |
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| 14.4 Packing group | | | | |
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| 14.5 Environmental hazard | | | | |
| Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| No supplementary information available | | | | |

Special precautions for user:

Overland transport: Not applicable

Transport by sea: Not applicable

Air transport: Not applicable

Inland water way transport: Not applicable

Rail transport: Not applicable

Transport in bulk according to Annex II of MARPOL and BBC code: Not applicable

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Other Information (Chapter 14):

No hazardous material as defined by the transport regulations.

Preserve in tight, light – resistant containers and store at prevailing temperature. Protect from Moisture and Heat.

15.0 Regulatory Information

Labeling Requirements in accordance with EC Directives:

Safety symbol imposed on the Label:

**Exclamatory
Symbol**



GHS08 health hazard.

Signal Word (CLP) : Warning

Hazard statement (CLP):

H361:- Suspected of damaging fertility. Suspected of damaging the unborn child.

Precautionary statement (CLP) :

P 201:- Obtain special instruction before use.

P280 – Wear eye protection, protective gloves, protective clothing

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

Other hazards:

PBT: Not applicable

VPVB: Not applicable.

Hazardous component to be indicated on label contains: FUROSEMIDE.

• **EU Regulations:**

No RECH Annex XVII restrictions: Furosemide is not in the REACH candidate list.

• **National Regulations:** No additional information available.

National Fire Protection Association (U.S.A):

Health: No additional information available.

Flammability: No additional information available.

Reactivity: No additional information available.

Protective Equipment: Wear Chemical resistant gloves (EN 374) or equivalent, use suitable protective clothing, Safety glasses, respiratory protection (Particle filter P2Gloves) etc.

Chemical safety assessment: No chemical safety assessment has been carried out

16.0 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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Full text of H and EUH statement:

| | |
|----------------------------------|---|
| Reproductive toxicity, category2 | Reproductive toxicity, category2 |
| H 361 | Suspected of damaging fertility or the unborn child |

Abbreviations and acronyms:

IATA- : Dangerous Good Regulation by the International Air—Transport Association.
DGR
ICAO :International Civil Aviation Organization
ICAO-TI :Technical Instruction by the "International Civil Aviation Organization" (ICAI)
ADR :European Agreement concerning the International Carriage of Dangerous Goods
by Road
RID :Regulation concerning the International Transport of Dangerous Goods by Rail
IMDG :International Maritime Code for Dangerous Goods
IATA :International Air Transport Association
GHS :Globally Harmonized System of Classification and Labeling of Chemicals
EINEC :Europe Inventory of Existing Commercial Chemical Substances
CAS :Chemical Abstracts Service (division of the American Chemical Society)
LC50 :Lethal concentration, 50 percent
LD50 : Lethal dose, 50 percent.

Sources:

NTP (National Toxicological Program)
HSDB database
FDA

Author responsible for the compilation of the material safety data sheet:

Mr. RVV Raghupati

GM – Quality

Sri Krishna Pharmaceuticals Limited


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Prepared By:
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02/07/19

Checked By:
Sign & Date


02 Jul 2019

