

# Material Safety Data Sheet

## 1. IDENTIFICATION OF THE CHEMICAL PRODUCT AND OF THE COMPANY

### 1.1 Identification of the chemical product

Common/Trade Name : Leucovorin Injection 50 mg/5 mL

Generic Name : Leucovorin Calcium

Chemical Name : Calcium(2S)-2-[[4-[[[6RS]-2-amino-5-formyl-4-oxo-1,4,5,6,7,8-hexahydropteridin-6-yl]methyl]amino]-benzoyl]amino]pentanedioate

Intended Use : Finished pharmaceutical product (Antidote)

### 1.2 Company identification

KOREA UNITED PHARM.INC

Development Division

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## 2. COMPOSITION/INFORMATION OF INGREDIENTS

Component	Molecular Formula	Molecular weight	CAS Number
Leucovorin Calcium	C <sub>20</sub> H <sub>21</sub> CaN <sub>7</sub> O <sub>7</sub> ·5H <sub>2</sub> O	601.61	1492-18-8
Sodium Chloride	NaCl	58.44	7647-14-5
Benzyl Alcohol	C <sub>7</sub> H <sub>8</sub> O	108.14	100-51-6
Water for Injection	H <sub>2</sub> O	18.02	7732-18-5

## 3. HAZARD IDENTIFICATION

**Appearance:** Clear, yellowish solution

**Statement of Hazard:** Non-hazardous in accordance with international standards for workplace safety.

### Additional Hazard Information:

**Short Term:** Not acutely toxic (based on animal data) . Accidental ingestion may cause effects similar to those seen in clinical use.

**Known Clinical Effects:** Ingestion of this material may cause effects similar to those seen in clinical use including effects on gastrointestinal disturbances and abdominal pain. Hypersensitivity reactions may also occur in susceptible individuals.

**EU Indication of danger:** Not classified

**Australian Hazard Classification (NOHSC):** Non-Hazardous Substance. Non-Dangerous Goods.



**Note:** This document has been prepared in accordance with standards for workplace safety, which require the inclusion of all known hazards of the active substance or its intermediates regardless of the potential risk. The precautionary statements and warnings included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

## 4. FIRST-AID MEASURES

**Eye Contact:** Flush with water while holding eyelids open for at least 15 minutes. Seek medical attention immediately.

**Skin Contact:** Remove contaminated clothing. Flush area with large amounts of water. Use soap. Seek medical attention.

**Ingestion:** Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.

**Inhalation:** Remove to fresh air and keep patient at rest. Seek medical attention immediately.

**Symptoms and Effects of Exposure:** For information on potential signs and symptoms of exposure, See Section 2 – Hazards Identification and/or Section 11 - Toxicological Information.

## 5. FIREFIGHTING MEASURES

**Extinguishing Media:** Use carbon dioxide, dry chemical, or water spray.

**Hazardous Combustion Products:** May emit toxic fumes of oxides of carbon and nitrogen.

**Fire Fighting Procedures:** During all fire fighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.

**Fire / Explosion Hazards:** Not applicable

## 6. ACCIDENTAL RELEASE MEASURES

**Health and Safety Precautions:** Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

**Measures for Cleaning / Collecting:** Contain the source of spill if it is safe to do so. Collect spill with absorbent material. Clean spill area thoroughly.

**Measures for Environmental Protections:** Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

**Additional Consideration for Large Spills:** Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel.

## 7. HANDLING AND STORAGE

**General Handling:** Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Wash thoroughly after handling.

**Storage Conditions:** Store as directed by product packaging.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

**Refer to available public information for specific member state Occupational Exposure Limits.**

### Sodium chloride

Latvia OEL – TWA = 5 mg/m<sup>3</sup> TWA

Lithuania OEL – TWA = 5 mg/m<sup>3</sup> IPRV

**Engineering Controls:** Engineering controls should be used as the primary means to control exposures. General room ventilation is adequate unless the process generates dust, mist or fumes. Keep airborne contamination levels below the exposure limits listed above in this section.

### Personal Protective Equipment:

**Hands:** Wear impervious gloves if skin contact is possible.

**Eyes:** Wear safety glasses or goggles if eye contact is possible.

**Skin:** Impervious protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations.

**Respiratory protection:** None required under normal conditions of use. Whenever air contamination (mist, vapor or odor) is generated, respiratory protection is recommended as a precaution to minimize exposure.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Clear, pale yellow solution in an amber ampule

**pH :** 6.5 – 8.5

## 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal conditions of use.

**Conditions to Avoid:** None known

**Incompatible Materials:** None

## 11. TOXICOLOGICAL PROPERTIES

**General Information:** The information included in this section describes the potential hazards of the active ingredient.

### Acute Toxicity: (Species, Route, End Point, Dose)

#### **Calcium Folinate**

Rat Oral LD 50 > 8000 mg/kg

Mouse Oral LD 50 > 7000 mg/kg

Rat Intraperitoneal LD 50 1063 mg/kg

#### **Sodium chloride**

Rat Oral LD50 3000 mg/kg

Mouse Oral LD 50 4000 mg/kg

**Acute Toxicity Comments:** A greater than symbol (>) indicates that the toxicity endpoint being tested was not achievable at the highest dose used in the test.

### Irritation / Sensitization: (Study Type, Species, Severity)

#### **Sodium Chloride**

Eye Irritation Rabbit Moderate

Skin Irritation Rabbit Mild

### Repeated Dose Toxicity: (Duration, Species, Route, Dose, End Point, Target Organ)

#### **Sodium Chloride**

10 Day(s) Rat Oral 12500 mg/kg LOAEL Kidney, Ureter, Bladder

**Carcinogen Status:** None of the components of this formulation are listed as a carcinogen by IARC, NTP or OSHA.

## 12. ECOLOGICAL CONSIDERATIONS

**Environmental Overview:** Environmental properties have not been investigated. Releases to the environment should be avoided.

## 13. DISPOSAL CONSIDERATIONS

**Disposal Procedures:** Dispose of waste in accordance with all applicable laws and

regulations. Member State specific and Community specific provisions must be considered.

#### **14. TRANSPORT INFORMATION**

Not regulated for transport under USDOT, EUADR, IATA, or IMDG regulations.

#### **15. REGULATORY INFORMATION**

**EU Indication of danger:** Not classified

**OSHA Label:** Non-hazardous in accordance with international standards for workplace safety.

#### **16. OTHER INFORMATION**

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect incidental consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damage.

Issue date : Aug. 08, 2018