

SAFETY DATA SHEET



Revision Date: 4.7.2020

Version 1.0

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1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND THE COMPANY / UNDERTAKING

Product Identifier

Material Name: Lactated Ringer's Solution, USP
Trade Name: Lactated Ringer's Irrigation, USP
Lactated Ringer's Injection, USP
Synonyms: None
Chemical Family: Mixture

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against Intended Use: Pharmaceutical product

Details of the supplier of the Safety Data Sheet:

ICU Medical, Inc.
275 North Field Drive
Lake Forest, IL 60045
(844) 654-7780

Emergency Telephone Number:

Phone: 1-(800) 241-4002, Option 6
CHEMTREC (24 hours): 1-800-424-9300
email: MedInfo_US@icumed.onmicrosoft.com

2. HAZARD IDENTIFICATION

Classification of the Substance or Mixture

GHS – Classification Not classified as hazardous

Label Elements

Signal Word: Not classified
Hazard Statements: Not classified in accordance with international standards for workplace safety

Other Hazards: An Occupational Exposure Value has been established for one or more of the ingredients (See Section 8)

Note: This document has been prepared in accordance with standards for workplace safety, which requires the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warning included may not apply in all cases. Your needs may vary depending on the potential for exposure in your workplace.

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3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS Number	EU EINECS / ELINCS List	GHS Classification	%
Sodium Lactate	72-17-3	200-772-0	Eye Irrit. 2 (H320)	<1
Sodium Chloride	7647-14-5	231-598-3	Not Listed	<1
Potassium Chloride	7447-40-7	231-211-8	Not Listed	<1
Calcium Chloride, Dihydrate	10035-04-8	Not Listed	Eye Irrit. (H319)	<1
Water for Injection	7732-18-5	231-791-2	Not Listed	>98

Additional Information: Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety. In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret.

For the full text of the CLP / GHS abbreviations mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

Description of First Aid Measures

Eye Contact: Flush with water while holding eyelids open for at least 15 minutes. If irritation occurs or persists, obtain medical attention.

Skin Contact: If irritation occurs, wash exposed area with soap and water, remove contaminated clothing and obtain medical assistance.

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

Inhalation: Not an expected route of exposure.

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms and Effects of Exposure: No data available

Medical Conditions Aggravated by Exposure: None Known

Indication of the Immediate Medical Attention and Special Treatment Needed

Notes to Physician: None

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5. FIRE FIGHTING MEASURES

Extinguishing Media: Extinguish fires with CO₂, dry chemical, foam, or water.

Special Hazards Arising from the Substance or Mixture

Hazardous Combustion

Products: Formation of toxic gases is possible during heating or fire. May include oxides of carbon.

Fire / Explosion Hazards: Not applicable

Advice for Firefighters

During all firefighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

Environmental Precautions

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

Methods and Material for Containment and Cleaning Up

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. Wipe up with damp cloth and place in disposal.

Additional Consideration for

Large Spills: None

7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. When handling, use appropriate personal protective equipment (see Section 8). Wash thoroughly after handling. Releases to the environment should be avoided. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

Conditions for safe storage, including any incompatibilities

Storage Conditions: Store as directed by product packaging

Incompatible Materials: None

Specific End Use(s): Pharmaceutical drug product

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Controls

Engineering Controls: Engineering controls should be used as the primary means to control exposures.

Personal Protective

Equipment: Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).

Eye Protection: Wear safety glasses or goggles if eye contact is possible.

Hand Protection: Impervious gloves (e.g. nitrile, etc.) are recommended if skin contact with drug product is possible for bulk processing operations.

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

Respiratory protection: None required under normal conditions of use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	Color:	Colorless
Odor:	None	Odor Threshold:	No data available
Molecular Formula:	Mixture	Molecular Weight:	Mixture

pH	6.0 to 7.5
Melting/Freezing Point (°C):	No data available
Partition Coefficient:	No data available
Decomposition Temperature (°C):	No data available
Evaporation Rate (gram/s):	No data available
Vapor Pressure (kPa):	No data available
Vapor Density (g/ml):	No data available
Specific Gravity:	1.0052 at 25 deg. C
Relative Density:	1.003 g/mL at 25 deg. C
Viscosity:	0.94 - 1.17 cps at 25 deg. C

Flammability:

Autoignition Temperature (Solid)(°C):	No data available
Flammability (solids):	No data available
Flash Point (Liquid)(°C):	No data available
Upper Explosive Limits (Liquid)(% by vol.)	No data available
Lower Explosive Limits (Liquid) (% by vol.)	No data available

10. STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical Stability:	Stable under normal conditions of use
Possibility of Hazardous Reactions:	
Oxidizing Properties:	No data available
Conditions to Avoid:	None
Incompatible Materials:	As a precautionary measure, keep away from strong oxidizers
Hazardous Decomposition Products:	No data available

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11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

General Information:

The information included in this section describes the potential hazards of the individual ingredients.

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

Sodium Lactate

Rat Oral LD50 >90 mL/kg

Sodium Chloride

Rat Oral LD50 3000 mg/kg

Mouse Oral LD50 4000 mg/kg

Potassium Chloride

Rat Oral LD50 2600 mg/kg

Mouse Oral LD50 1500 mg/kg

Calcium Chloride

Rat Oral LD50 1000 mg/kg

Mouse Oral LD50 1940 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.

12. ECOLOGICAL INFORMATION

Environmental Overview:

Releases to the environment should be avoided. No acute toxicity to aquatic organisms is expected.

Toxicity:

No data available

Persistence and Degradability:

No data available

Bio-accumulative Potential:

No data available

Mobility in Soil:

No data available

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods:

Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

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14. TRANSPORT INFORMATION

The following refers to all modes of transportation unless specified below.

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

15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

Sodium Lactate

CERCLA/SARA 313 Emission reporting	Not Listed
California Proposition 65	Not Listed
Inventory – United States TSCA	Present
Australia (AICS):	Present
EU EINECS / ELINCS List	200-772-0

Sodium Chloride

CERCLA/SARA 313 Emission reporting	Not Listed
California Proposition 65	Not Listed
Inventory – United States TSCA	Present
Australia (AICS):	Present
EU EINECS / ELINCS List	231-598-3

Potassium Chloride

CERCLA/SARA 313 Emission reporting	Not Listed
California Proposition 65	Not Listed
Inventory – United States TSCA	Present
Australia (AICS):	Present
EU EINECS / ELINCS List	231-211-8

Calcium Chloride

CERCLA/SARA 313 Emission reporting	Not Listed
California Proposition 65	Not Listed
Inventory – United States TSCA	Present
Australia (AICS)	Present
EU EINECS/ELINCS List	Not Listed

Water for Injection

CERCLA/SARA 313 Emission reporting	Not Listed
California Proposition 65	Not Listed
Inventory – United States TSCA	Present
Australia (AICS):	Present
EU EINECS / ELINCS List	231-791-2

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16. OTHER INFORMATION

Text of CLP/GHS Classification abbreviations mentioned in Section 3

Serious eye damage/eye irritation – Cat. 2A; H319 and H320 – Causes serious eye irritation

Data Sources: Publicly available toxicity information.

Reasons for Revision: Company/Undertaking.

Development date: April 7, 2020

Prepared by: ICU Medical Environment, Health & Safety Department

ICU Medical believes that the information contained in this Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time.

END OF SAFETY DATA SHEET