

# Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 10.24.2014

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## Ringer's Solution Mammalin

### SECTION 1: Identification of the substance/mixture and of the supplier

**Product name:** Ringer's Solution Mammalin

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** S25513

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc  
9 Barnhart Drive, Hanover, PA 17331  
(717) 632-1291

**Supplier Details:**

Fisher Science Education  
6771 Silver Crest Road, Nazareth, PA 18064  
(724)517-1954

**Emergency telephone number:**

Fisher Science Education Emergency Telephone No.: 800-535-5053

### SECTION 2: Hazards identification

**Classification of the substance or mixture:** None

**Hazard statements:** None

**Precautionary statements:**

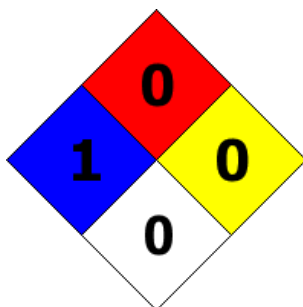
If medical advice is needed, have product container or label at hand.  
Read label before use.

**Other Non-GHS Classification:**

None

**WHMIS**

**NFPA/HMIS**



NFPA SCALE (0-4)

Health	1
Flammability	0
Physical Hazard	0
Personal Protection	X

HMIS RATINGS (0-4)

### SECTION 3: Composition/information on ingredients

#### Ingredients:

CAS 7732-18-5	Water	98 %
CAS 7647-14-5	Sodium Chloride	0.92 %

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CAS 7447-40-7	Potassium Chloride	0.042 %
CAS 10043-52-4	Calcium Chloride	0.024 %
CAS 144-55-8	Sodium Bicarbonate	0.015 %
Percentages are by weight		

### SECTION 4: First aid measures

#### Description of first aid measures

##### After inhalation:

Loosen clothing as necessary and position individual in a comfortable position. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Get medical assistance if cough or other symptoms appear.

##### After skin contact:

Rinse/flush exposed skin gently using soap and water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

##### After eye contact:

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned. Keep eyelids open while rinsing.

##### After swallowing:

Rinse mouth thoroughly. Do not induce vomiting. Seek medical attention if irritation, discomfort, or vomiting persists. Never give anything by mouth to an unconscious person.

#### Most important symptoms and effects, both acute and delayed:

Irritation. Headache. Nausea. Shortness of breath.

#### Indication of any immediate medical attention and special treatment needed:

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

### SECTION 5: Firefighting measures

#### Extinguishing media

##### Suitable extinguishing agents:

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

##### Unsuitable extinguishing agents: None

#### Special hazards arising from the substance or mixture:

Thermal decomposition can lead to release of irritating gases and vapors.

#### Advice for firefighters:

##### Protective equipment:

Wear protective eyewear, gloves, and clothing. Refer to Section 8. Use NIOSH-approved respiratory protection/breathing apparatus.

##### Additional information (precautions):

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

### SECTION 6: Accidental release measures

#### Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation. Ensure that air-handling systems are operational.

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### Environmental precautions:

Should not be released into environment. Prevent from reaching drains, sewer, or waterway.

### Methods and material for containment and cleaning up:

Always obey local regulations. Containerize for disposal. Refer to Section 13. Wear protective eyewear, gloves, and clothing. Refer to Section 8. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Keep in suitable closed containers for disposal.

Reference to other sections: None

## SECTION 7: Handling and storage

### Precautions for safe handling:

Avoid contact with skin, eyes, and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Refer to Section 13. Do not eat, drink, smoke, or use personal products when handling chemical substances.

### Conditions for safe storage, including any incompatibilities:

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly sealed. Store away from incompatible materials.

## SECTION 8: Exposure controls/personal protection



### Control Parameters:

No applicable occupational exposure limits.

### Appropriate Engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

### Respiratory protection:

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

### Protection of skin:

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.

### Eye protection:

Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection.

### General hygienic measures:

Perform routine housekeeping. Wash hands before breaks and at the end of work. Avoid contact with skin, eyes, and clothing. Before wearing wash contaminated clothing.

## SECTION 9: Physical and chemical properties

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<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower: Explosion limit upper:</b>	Not determined Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure:</b>	14 mm (water)
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Neutral	<b>Relative density:</b>	1.0
<b>Melting/Freezing point:</b>	Approximately 0C	<b>Solubilities:</b>	Material is water soluble.
<b>Boiling point/Boiling range:</b>	Approximately 100C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid,gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density:</b> Not determined			

### SECTION 10: Stability and reactivity

#### Reactivity:

Nonreactive under normal conditions.

#### Chemical stability:

Stable under normal conditions.

#### Possible hazardous reactions:

None under normal processing.

#### Conditions to avoid:

Incompatible materials.

**Incompatible materials:** None

**Hazardous decomposition products:** None

### SECTION 11: Toxicological information

<b>Acute Toxicity:</b>		
<b>Oral:</b>	7647-14-5	LD50 rat: 3000 g/kg
<b>Oral:</b>	144-55-8	LD50 rat: 4220mg/kg
<b>Oral:</b>	7447-40-7	LD50 orl-rat: 2600mg/kg
<b>Inhalation:</b>	7647-14-5	LC50 rat: >42g/m3/1H
<b>Chronic Toxicity:</b> No additional information.		

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<b>Corrosion Irritation:</b> No additional information.	
<b>Sensitization:</b>	No additional information.
<b>Single Target Organ (STOT):</b>	No additional information.
<b>Numerical Measures:</b>	No additional information.
<b>Carcinogenicity:</b>	No additional information.
<b>Mutagenicity:</b>	No additional information.
<b>Reproductive Toxicity:</b>	No additional information.

### SECTION 12: Ecological information

**Ecotoxicity:** None

**Persistence and degradability:**

No information available.

**Bioaccumulative potential:**

No information available.

**Mobility in soil:**

No information available.

**Other adverse effects:**

No information available.

### SECTION 13: Disposal considerations

**Waste disposal recommendations:**

Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

### SECTION 14: Transport information

**UN-Number:**

Not Regulated.

**UN proper shipping name:**

Not Regulated.

**Transport hazard class(es):** None

**Packing group:** Not Regulated

**Environmental hazard:** None

**Transport in bulk:** Not Applicable

**Special precautions for user:** None

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### SECTION 15: Regulatory information

#### United States (USA)

**SARA Section 311/312 (Specific toxic chemical listings):**

None of the ingredients are listed.

**SARA Section 313 (Specific toxic chemical listings):**

7447-40-7 Potassium Chloride.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

**TSCA (Toxic Substances Control Act):**

None of the ingredients are listed.

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):**

None of the ingredients are listed.

#### Proposition 65 (California):

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

#### Canada

**Canadian Domestic Substances List (DSL):**

All ingredients are listed.

**Canadian NPRI Ingredient Disclosure list (limit 0.1%):**

None of the ingredients are listed.

**Canadian NPRI Ingredient Disclosure list (limit 1%):**

None of the ingredients are listed.

### SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**GHS Full Text Phrases:** None

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#### Abbreviations and Acronyms:

IMDG International Maritime Code for Dangerous Goods.  
IATA International Air Transport Association.  
GHS Globally Harmonized System of Classification and Labelling of Chemicals.  
ACGIH American Conference of Governmental Industrial Hygienists.  
CAS Chemical Abstracts Service (division of the American Chemical Society).  
NFPA National Fire Protection Association (USA).  
HMIS Hazardous Materials Identification System (USA).  
WHMIS Workplace Hazardous Materials Information System (Canada).  
DNEL Derived No-Effect Level (REACH).  
PNEC Predicted No-Effect Concentration (REACH).  
CFR Code of Federal Regulations (USA).  
SARA Superfund Amendments and Reauthorization Act (USA).  
RCRA Resource Conservation and Recovery Act (USA).  
TSCA Toxic Substances Control Act (USA).  
NPRI National Pollutant Release Inventory (Canada).  
DOTUS Department of Transportation.

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