**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

1.1. **Product identifier**

Product name: Hemodialysis Acid Concentrate
Product code: SB – 1000 Series – RENASOL® Acid Concentrate
SB – 100 Series – CENTRISOL® Acid Concentrate
SB – 300 Series – CENTRISOL® Acid Concentrate

1.2. **Relevant identified uses of the substance or mixture and uses advised against**

Use of the substance/mixture: Concentrate formulation to be used in conjunction with bicarbonate in a compatible artificial kidney (hemodialysis) machine.

1.3. **Details of the supplier of the safety data sheet**

Medivators Inc.
14605 28th Avenue North
Minneapolis, MN 55447 - USA
T 1-800-328-3340

1.4. **Emergency telephone number**

Emergency number: CHEMTREC 1-800-424-9300 or (703)-527-3887

**SECTION 2: Hazards identification**

2.1. **Classification of the substance or mixture**

GHS-US classification
Skin Irritation 2
Eye Irritation 2A

2.2. **Label elements**

GHS-US labelling
No labelling applicable. This product is exempt from labeling as per OSHA 1910.1200(b)(5)(ii) - Any food, food additive, color additive, drug, cosmetic, or medical or veterinary device or product, including materials intended for use as ingredients in such products (e.g. flavors and fragrances), as such terms are defined in the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.) or the Virus-Serum-Toxin Act of 1913 (21 U.S.C. 151 et seq.), and regulations issued under those Acts, when they are subject to the labeling requirements under those Acts by either the Food and Drug Administration or the Department of Agriculture.

2.3. **Other hazards**

No additional information available.

2.4. **Unknown acute toxicity (GHS US)**

Not applicable.

**SECTION 3: Composition/information on ingredients**

3.1. **Substance**

Not applicable.

3.2. **Mixture**

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>(CAS No) 64-19-7</td>
<td>0.5 - 1.5</td>
</tr>
</tbody>
</table>

* The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

**SECTION 4: First aid measures**

4.1. **Description of first aid measures**

First-aid measures after inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.

First-aid measures after eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. If irritation persists, get medical attention.

First-aid measures after ingestion: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.
4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation: May cause respiratory tract irritation. Symptoms may include sneezing, sore throat and runny nose.

Symptoms/injuries after skin contact: Causes skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin.

Symptoms/injuries after eye contact: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/injuries after ingestion: May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Treat for surrounding material.

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Does not support combustion.

5.3. Advice for firefighters

Protection during firefighting: Keep upwind of fire. Wear full firefighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2. Methods and material for containment and cleaning up

For containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up: Scoop up material and place in a disposal container.

6.3. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Avoid contact with skin and eyes. Avoid breathing vapor or mist. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke.

Hygiene measures: Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Keep out of the reach of children. Keep container tightly closed.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Acetic acid (64-19-7)</th>
<th>ACGIH TWA (ppm)</th>
<th>ACGIH STEL (ppm)</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
<th>OSHA PEL (TWA) (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td></td>
<td></td>
<td>10 ppm</td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td></td>
<td></td>
<td>15 ppm</td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td></td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>25 mg/m³</td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td></td>
<td>OSHA PEL (TWA) (ppm)</td>
<td>10 ppm</td>
<td></td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Hand protection: Wear suitable gloves.
**Hemodialysis Acid Concentrate**

**Safety Data Sheet**


| Eye protection | : Wear eye protection. |
| Skin and body protection | : Wear suitable protective clothing. |
| Respiratory protection | : In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. |
| Environmental exposure controls | : Maintain levels below Community environmental protection thresholds. |
| Other information | : Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices. |

### SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear</td>
</tr>
<tr>
<td>Colour</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odour</td>
<td>Vinegar</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>2 - 3</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 93 °C (&gt; 199.4 °F)</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
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</tr>
<tr>
<td>Relative density</td>
<td>1.2</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
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</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**9.2. Other information**

No additional information available.

### SECTION 10: Stability and reactivity

**10.1. Reactivity**

No dangerous reaction known under conditions of normal use.

**10.2. Chemical stability**

Stable under normal storage conditions.

**10.3. Possibility of hazardous reactions**

No dangerous reaction known under conditions of normal use.

**10.4. Conditions to avoid**

Heat.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

Will not occur.
Hemodialysis Acid Concentrate
Safety Data Sheet

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified.

**Hemodialysis Acid Concentrate**
- LD50 oral rat: > 2000 mg/kg
- LD50 dermal rabbit: > 2000 mg/kg
- LC50 inhalation rat: > 20 mg/l/4h

**Acetic acid (64-19-7)**
- LD50 oral rat: 3310 mg/kg
- LD50 dermal rabbit: 1060 mg/kg
- LC50 inhalation rat: 11.4 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : Based on available data, the classification criteria are not met.
Germ cell mutagenicity : Based on available data, the classification criteria are not met.
Carcinogenicity : Based on available data, the classification criteria are not met.
Reproductive toxicity : Based on available data, the classification criteria are not met.
Specific target organ toxicity (single exposure) : Based on available data, the classification criteria are not met.
Specific target organ toxicity (repeated exposure) : Based on available data, the classification criteria are not met.
Aspiration hazard : Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : May cause respiratory tract irritation.
Symptoms/injuries after skin contact : Causes skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin.
Symptoms/injuries after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/injuries after ingestion : May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general : May cause long-term adverse effects in the aquatic environment.

12.2. Persistence and degradability

**Hemodialysis Acid Concentrate**
- Persistence and degradability: Not established.

12.3. Bioaccumulative potential

**Hemodialysis Acid Concentrate**
- Bioaccumulative potential: Not established.

12.4. Mobility in soil
No additional information available.

12.5. Other adverse effects
Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimized wherever possible.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not regulated for transport.
Additional information

Other information : No supplementary information available.

Special transport precautions : Do not handle until all safety precautions have been read and understood.

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

15.2. US State regulations

| Hemodialysis Acid Concentrate | State or local regulations | This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm. |

SECTION 16: Other information

Date of issue : 03/02/2017

Revision date : 03/02/2017

Other information : None.