

RENALIN® 100 Cold Sterilant

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

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

1.1. Product identifier

Product name : RENALIN® 100 COLD STERILANT
RENALIN® COLD STERILANT FOR DIALYSIS USE

Product code : 78397-844,78397-845,78397-846

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

Use of the substance/mixture : Reprocessing of Hemodialysis Dialyzers

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 : 1-800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Oxidizing liquid 1
Organic peroxide G
Corrosive to metals 1
Acute toxicity 4 (Inhalation)
Skin corrosion 1A
Serious eye damage 1
Specific target organ toxicity - Single exposure 3

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US)



Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : May cause fire or explosion; strong oxidizer. May be corrosive to metals. Causes severe skin burns and eye damage. Harmful if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness

Precautionary statements (GHS-US) : Keep away from heat. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles (metals, oxidizing materials, alkalis, caustics, chlorine, formaldehyde, salts, flammable organics). Keep only in original container. Use only outdoors or in a well-ventilated area. Do not breathe dusts or mists. Wash hands thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Absorb spillage to prevent material damage. If on skin (or hair): Rinse skin with water/shower. If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash contaminated clothing before reuse. Immediately call a poison center/doctor. If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center/doctor. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Store in corrosive resistant container with a resistant inner liner. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Other hazards

No additional information available.

RENALIN® 100 Cold Sterilant

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable.

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Hydrogen peroxide	(CAS No) 7722-84-1	10 - 30	Ox. Liq. 1 Acute Tox. 4 (Oral) Acute Tox. 4 (Inhalation) Skin Corr. 1A
Acetic acid	(CAS No) 64-19-7	5 - 10	Flam. Liq. 3 Acute Tox. 4 (Dermal) Skin Corr. 1A
Peroxyacetic acid	(CAS No) 79-21-0	3 - 7	Flam. Liq. 3 Org. Perox. D Acute Tox. 2 (Inhalation) Acute Tox. 4 (Oral) Acute Tox. 4 (Dermal) Skin Corr. 1A STOT SE 3
Stabilizer	Proprietary	0.5 – 1.5	Eye Dam. 1 Met. Corr. 1

* The specific chemical identity and 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 inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical advice/attention.
- 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. Get immediate medical advice/attention.
- 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. Get immediate medical advice/attention.
- First-aid measures after ingestion : Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : Harmful if inhaled. May cause respiratory irritation.
- Symptoms/injuries after skin contact : Causes severe skin burns. Symptoms may include redness, pain, blisters.
- Symptoms/injuries after eye contact : Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns.
- Symptoms/injuries after ingestion : May be harmful if swallowed. May cause stomach distress, nausea or vomiting. May cause burns to the linings of the mouth, throat, and gastrointestinal tract.

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 : Water spray, dry chemical, foam, carbon dioxide.
- Unsuitable extinguishing media : Do not use water jet.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon, oxygen. Danger of developing toxic pyrolyse products.
- Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. This material increases the risk of fire and may aid combustion.

5.3. Advice for firefighters

- Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). Use water spray to cool exposed surfaces.

RENALIN® 100 Cold Sterilant

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

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. Remove ignition sources.

6.2. Methods and material for containment and cleaning up

For containment : In case of accidental spillage, contain the spill and neutralize it with sodium bicarbonate or sodium carbonate. Use appropriate personal protection equipment (PPE).

Methods for cleaning up : Scoop up material and place in a disposal container. Absorb spillage to prevent material damage. Provide ventilation. Do not reuse the liquid material.

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

Additional hazards when processed : May be corrosive to metals.

Precautions for safe handling : Keep away from sources of ignition. Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Do not swallow. Handle and open container with care. Use only outdoors or in a well-ventilated area. When using do not eat, drink or smoke. Never return unused material to original container.

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

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Keep only in the original container in a cool, well-ventilated place. Store away from other materials. Floor needs a protective coating against acid. Store at temperatures not exceeding 23.9 °C (75 °F). Protect from sunlight. Store locked up.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Hydrogen peroxide (7722-84-1)		
ACGIH	ACGIH TWA (ppm)	1 ppm
OSHA	OSHA PEL (TWA) (mg/m³)	1.4 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	1 ppm
Acetic acid (64-19-7)		
ACGIH	ACGIH TWA (ppm)	10 ppm
ACGIH	ACGIH STEL (ppm)	15 ppm
OSHA	OSHA PEL (TWA) (mg/m³)	25 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	10 ppm
Peroxyacetic acid (79-21-0)		
ACGIH	ACGIH STEL (ppm)	0.4 ppm (inhalable fraction and vapor)
OSHA	Not applicable	
Stabilizer (Proprietary)		
ACGIH	Not applicable	
OSHA	Not applicable	

8.2. Exposure controls

Appropriate engineering controls : Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

Hand protection : Wear chemically resistant protective gloves.

RENALIN® 100 Cold Sterilant

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

Eye protection	: Wear approved eye protection (properly fitted dust- or splash-proof chemical safety goggles) and face protection (face shield).
Skin and body protection	: Wear suitable protective clothing. Wear solvent resistant apron and boots for spills.
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

Physical state	: Liquid
Appearance	: Clear
Color	: Colorless
Odor	: Acidic
Odor threshold	: No data available
pH	: 0.5 – 1.1
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not flammable
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 1.09 - 1.14
Solubility	: No data available
Partition coefficient: n-octanol/water	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: Strong oxidizer
Explosive limits	: No data available
SADT	: >60°C

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

May cause or contribute to the combustion of other material generally by yielding oxygen. May be corrosive to metals.

10.2. Chemical stability

Stable under normal storage conditions. Decomposes slowly to release oxygen.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Heat. Sources of ignition. Incompatible materials.

RENALIN[®] 100 Cold Sterilant

Safety Data Sheet

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10.5. Incompatible materials

Metals. Oxidizing materials. Alkalies. Caustics. Chlorine. Formaldehyde. Salts. Flammable organics.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon, oxygen. Do not mix with chlorinated products as this could liberate toxic corrosive chlorine gas.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if inhaled.

RENALIN 100 Cold Sterilant	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	>2.0 but ≤10.0 mg/l (Calculated using ATE values)
Hydrogen peroxide (7722-84-1)	
LD50 oral rat	801 mg/kg
LD50 dermal rat	4060 mg/kg
LD50 dermal rabbit	2000 mg/kg
LC50 inhalation rat	2 g/m ³ /4 h
Acetic acid (64-19-7)	
LD50 oral rat	3310 mg/kg
LD50 dermal rabbit	1060 mg/kg
Peroxyacetic acid (79-21-0)	
LD50 oral rat	1540 mg/kg
LD50 dermal rabbit	1410 µl/kg
LC50 inhalation mouse	0.524 mg/l/4h
Stabilizer (Proprietary)	
LD50 oral rat	2400 mg/kg
LD50 dermal rabbit	> 7940 mg/kg

Skin corrosion/irritation : Causes severe skin burns.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : 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.

Hydrogen peroxide (7722-84-1)	
IARC group	3 - Not classifiable

Reproductive toxicity : Based on available data, the classification criteria are not met.
Specific target organ toxicity (single exposure) : May cause respiratory irritation.
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 : Harmful if inhaled. May cause respiratory irritation. May cause drowsiness and dizziness.
Symptoms/injuries after skin contact : Causes severe skin burns. Symptoms may include redness, pain, blisters.
Symptoms/injuries after eye contact : Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns.
Symptoms/injuries after ingestion : May be harmful if swallowed. May cause stomach distress, nausea or vomiting. May cause burns to the linings of the mouth, throat, and gastrointestinal tract.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Not considered to be harmful to aquatic life.

12.2. Persistence and degradability

No additional information available.

RENALIN® 100 Cold Sterilant

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12.3. Bioaccumulative potential

RENALIN 100 Cold Sterilant

Bioaccumulative potential	Not established.
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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

In accordance with DOT.

UN-No.(DOT) : UN3149
Proper Shipping Name (DOT) : Hydrogen peroxide and peroxyacetic acid mixtures, stabilized
Department of Transportation (DOT) Hazard Classes : 5.1 (8)
Hazard labels (DOT) :



Packing group (DOT) : II

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.

Hydrogen peroxide (7722-84-1)

Listed on the United States SARA Section 302

SARA Section 302 Threshold Planning Quantity (TPQ)	1000 (concentration >52%)
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Peroxyacetic acid (79-21-0)

Listed on the United States SARA Section 302

Listed on United States SARA Section 313

SARA Section 302 Threshold Planning Quantity (TPQ)	500
SARA Section 313 - Emission Reporting	1.0 %

15.2. US State regulations

RENALIN 100 Cold Sterilant

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.
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SECTION 16: Other information

Date of issue : 02/19/2015
Other information : None.

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