Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
Gut Solution

Product Use
Used with sutures

Restrictions on Use
For use under medical supervision only.

Manufacturer Information
Covidien, LP
15 Hampshire Street
Mansfield, MA 02048
USA
Phone: +1-(508) 261-8000 (Monday - Friday 8:00 am to 5:00 pm)
Email: customerservice@medtronic.com

Emergency Telephone Number:
CHEMTREC (800) 424-9300 (for US and Canada)
1(703) 527-3887 (Outside US and Canada)
Collect calls accepted

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.
Flammable Liquids - Category 2
Serious Eye Damage/Eye Irritation - Category 2A
Skin Sensitization - Category 1A
Reproductive Toxicity - Category 2
Specific Target Organ Toxicity - Single Exposure - Category 1 (central nervous system, kidneys, systemic toxicity)
Specific Target Organ Toxicity - Single Exposure - Category 3
Specific Target Organ Toxicity - Repeated Exposure - Category 1 (Hematopoietic System)
Specific Target Organ Toxicity - Repeated Exposure - Category 2 (Cardiovascular system, liver, spleen, respiratory system)

GHS Label Elements

Symbol(s)

Signal Word
Danger
Hazard Statement(s)
Highly flammable liquid and vapor
Causes serious eye irritation
May cause allergic skin reaction
Suspected of damaging fertility or the unborn child
Causes damage to organs
May cause respiratory irritation. May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
May cause damage to organs through prolonged or repeated exposure

Precautionary Statement(s)
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Keep container tightly closed
Keep away from heat/sparks/open flame/hot surfaces - No smoking
Ground/Bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting equipment
Take precautionary measures against static discharge
Use only non-sparking tools
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust/fume/gas/mist/vapours/spray
Wash thoroughly after handling
Contaminated work clothing must not be allowed out of the workplace
Do not eat, drink or smoke when using this product

Response
In case of fire: Use appropriate media to extinguish
If exposed: Call a POISON CENTER or doctor/physician
IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor if you feel unwell
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy
to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with
water/shower
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
Specific treatment (see label)

Storage
Store in a well-ventilated place. Keep container tightly closed
Keep cool
Store locked up

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations

Other Hazards
No additional information available.
Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS</th>
<th>Component Name</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0</td>
<td>Isopropanol</td>
<td>&gt; 85</td>
</tr>
<tr>
<td>102-71-6</td>
<td>Triethanolamine</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>&lt; 15</td>
</tr>
</tbody>
</table>

Section 4 - FIRST AID MEASURES

Inhalation
Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.

Skin
Remove/Take off immediately all contaminated clothing and wash it before reuse. Rinse skin with water/shower. If skin irritation or rash occurs, seek medical advice/attention.

Eyes
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Ingestion
Do NOT induce vomiting. If swallowed, get medical attention.

Indication of any immediate medical attention and special treatment needed
Treat symptomatically and supportively.

Most Important Symptoms/Effects
Acute
Causes serious eye irritation. May cause allergic skin reaction. Causes damage to central nervous system, kidneys, and systemic toxicity. May cause respiratory irritation. May cause drowsiness or dizziness.

Delayed
Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure: Hematopoietic System. May cause damage to organs through prolonged or repeated exposure: Cardiovascular system, liver, spleen, respiratory system.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media
Suitable Extinguishing Media
Dry chemical, foam or carbon dioxide.
Safety Data Sheet

Material Name: Gut Solution

Unsuitable Extinguishing Media
None reported.

Special Hazards Arising from the Chemical
Highly flammable liquid and vapor. Beware of re-ignition. Vapors are heavier than air and may travel a considerable distance to a source of ignition and flashback.

Hazardous Combustion Products
Oxides of carbon, oxides of nitrogen

Fire Fighting Measures
Move container from fire area if it can be done without risk. Stay upwind and keep out of low areas. Avoid inhalation of material or combustion by-products. Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up
Absorb with earth, sand or other non-combustible material and transfer to container. Wear protective gloves/protective clothing/eye protection/face protection. Remove all sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry.

Environmental Precautions
Avoid release to the environment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep container tightly closed. Keep away from heat/sparks/open flame/hot surfaces - No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product.

Conditions for Safe Storage, Including any Incompatibilities

Incompatible Materials
Acids, strong oxidizing agents, halogens, aluminum, acid anhydrides, Coatings, plastic, rubber
Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol</td>
<td>67-63-0</td>
</tr>
<tr>
<td>ACGIH:</td>
<td>200 ppm TWA</td>
</tr>
<tr>
<td></td>
<td>400 ppm STEL</td>
</tr>
<tr>
<td>NIOSH:</td>
<td>400 ppm TWA; 980 mg/m3 TWA</td>
</tr>
<tr>
<td></td>
<td>500 ppm STEL; 1225 mg/m3 STEL</td>
</tr>
<tr>
<td></td>
<td>2000 ppm IDLH (10% LEL)</td>
</tr>
<tr>
<td>OSHA (US):</td>
<td>400 ppm TWA; 980 mg/m3 TWA</td>
</tr>
<tr>
<td>Mexico:</td>
<td>400 ppm TWA LMPE-PPT; 980 mg/m3 TWA LMPE-PPT</td>
</tr>
<tr>
<td></td>
<td>500 ppm STEL [LMPE-CT]; 1225 mg/m3 STEL [LMPE-CT]</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
</tr>
<tr>
<td>ACGIH:</td>
<td>5 mg/m3 TWA</td>
</tr>
</tbody>
</table>

**Biological limit value**

There are no biological limit values for any of this product's components.

**Engineering Controls**

Provide for sufficient ventilation. Ensure compliance with applicable exposure limits.

**Individual Protection Measures, such as Personal Protective Equipment**

**Eye/face protection**

Wear safety glasses with side-shields.

**Skin Protection**

Wear appropriate work clothing.

**Respiratory Protection**

In case of inadequate ventilation wear respiratory protection.

**Glove Recommendations**

Wear appropriate chemical resistant gloves. Do not wear gloves made of polyvinyl alcohol (PVA).

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**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear, colorless</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Alcohol</td>
<td>Color</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available</td>
<td>pH</td>
</tr>
<tr>
<td>Not available</td>
<td></td>
<td>Not available</td>
</tr>
</tbody>
</table>
Safety Data Sheet

Material Name: Gut Solution

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>87 °C (188.6 °F)</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available</td>
</tr>
<tr>
<td>Autoignition</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower Explosive Limit</td>
<td>2 %</td>
</tr>
<tr>
<td>Upper Explosive Limit</td>
<td>12 %</td>
</tr>
<tr>
<td>Vapor Density (air=1)</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Completely soluble</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Density</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Other Information
No additional information available.

Section 10 - STABILITY AND REACTIVITY

Reactivity
No reactivity hazard is expected.

Chemical Stability
Stable under normal conditions of use.

Possibility of Hazardous Reactions
Hazardous polymerization will not occur.

Conditions to Avoid
Avoid heat, flames, sparks and other sources of ignition. Avoid shock. Take precautionary measures against static discharge. Avoid contact with incompatible materials.

Incompatible Materials
Acids, strong oxidizing agents, halogens, aluminum, acid anhydrides, Coatings, plastic, rubber

Hazardous decomposition products
Oxides of carbon, oxides of nitrogen
Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

**Inhalation**
May cause respiratory irritation. May cause drowsiness or dizziness.

**Skin Contact**
May cause allergic skin reaction.

**Eye Contact**
Causes serious eye irritation.

**Ingestion**
No information on significant adverse effects.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50
The components of this material have been reviewed in various sources and the following selected endpoints are published:
Isopropanol (67-63-0)
- Oral LD50 Rat 5045 mg/kg (Safety Data Sheet)
- Dermal LD50 Rabbit 12800 mg/kg (Safety Data Sheet)
- Inhalation LC50 Rat 1600 ppm 4 h (Safety Data Sheet)
Triethanolamine (102-71-6)
- Oral LD50 Rat >5000 mg/kg (Safety Data Sheet)
- Dermal LD50 Rabbit >2000 mg/kg (Safety Data Sheet)

Immediate Effects
Causes serious eye irritation. May cause allergic skin reaction. Causes damage to central nervous system, kidneys, and systemic toxicity. May cause respiratory irritation. May cause drowsiness or dizziness.

Delayed Effects
Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure: Hematopoietic System. May cause damage to organs through prolonged or repeated exposure: Cardiovascular system, liver, spleen, respiratory system.

Irritation/Corrosivity Data
Causes serious eye irritation. May cause respiratory irritation.

Respiratory Sensitization
No data available.

Dermal Sensitization
May cause allergic skin reaction.

Component Carcinogenicity

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
<th>ACGIH</th>
<th>IARC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol</td>
<td>67-63-0</td>
<td>A4 - Not Classifiable as a Human Carcinogen</td>
<td>Monograph 71 [1999]; Supplement 7 [1987]; Monograph 15 [1977] (Group 3 (not classifiable))</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Germ Cell Mutagenicity
No data available.

Reproductive Toxicity
Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure
Central Nervous System, kidneys, systemic toxicity

Specific Target Organ Toxicity - Repeated Exposure
Hematopoietic System, Cardiovascular system, liver, spleen, respiratory system

Aspiration hazard
No data available.

Medical Conditions Aggravated by Exposure
May cause allergic skin reaction. Repeated exposure may cause dermititis.

Additional Data
No additional information available.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity
Avoid release to the environment.

Component Analysis - Aquatic Toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>Aquatic Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol</td>
<td>LC50 96 h Pimephales promelas 9640 mg/L [flow-through]; LC50 96 h Pimephales</td>
</tr>
<tr>
<td></td>
<td>promelas 11130 mg/L [static]; LC50 96 h Lepomis macrhoirus &gt;1400000 µg/L</td>
</tr>
<tr>
<td>Algae:</td>
<td>EC50 96 h Desmodesmus subspicatus &gt;1000 mg/L IUCLID; EC50 72 h Desmodesmus</td>
</tr>
<tr>
<td></td>
<td>subspicatus &gt;1000 mg/L IUCLID</td>
</tr>
<tr>
<td>Invertebrate:</td>
<td>EC50 48 h Daphnia magna 13299 mg/L IUCLID</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
</tr>
<tr>
<td>Fish:</td>
<td>LC50 96 h Pimephales promelas 10600 - 13000 mg/L [flow-through]; LC50 96 h</td>
</tr>
<tr>
<td></td>
<td>Pimephales promelas &gt;1000 mg/L [static]; LC50 96 h Lepomis macrochirus 450 -</td>
</tr>
<tr>
<td></td>
<td>1000 mg/L [static]</td>
</tr>
<tr>
<td>Algae:</td>
<td>EC50 72 h Desmodesmus subspicatus 216 mg/L IUCLID; EC50 96 h Desmodesmus</td>
</tr>
<tr>
<td></td>
<td>subspicatus 169 mg/L IUCLID</td>
</tr>
</tbody>
</table>

Persistence and Degradability
Isopropanol: Readily degraded in water.

Bioaccumulative Potential
No information available for the product.
Safety Data Sheet

Material Name: Gut Solution

Mobility
Isopropanol: Expected to have high mobility in soil.

Bioconcentration
Isopropanol: Low bioconcentration, BCF: 3.

Other Toxicity
No additional information available.

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Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.

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Section 14 - TRANSPORT INFORMATION

US DOT Information:
Shipping Name: Flammable liquid, n.o.s. (isopropyl alcohol)
Hazard Class: 3
UN/NA #: UN1993
Packing Group: II
Required Label(s): 3
Additional information: No additional information available

IATA Information:
Shipping Name: Flammable liquid, n.o.s. (isopropyl alcohol)
Hazard Class: 3
UN#: UN1993
Packing Group: II
Required Label(s): 3
Additional information: Consult current IATA regulations prior to shipping by air

IMDG Information:
Shipping Name: Flammable liquid, n.o.s. (isopropyl alcohol)
Hazard Class: 3
UN#: UN1993
Packing Group: II
Required Label(s): 3
Additional information: No additional information available

TDG Information:
Shipping Name: Flammable liquid, n.o.s. (isopropyl alcohol)
Hazard Class: 3
UN#: UN1993
Packing Group: II
Safety Data Sheet

Material Name: Gut Solution

Required Label(s): 3

Additional information: No additional information available

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations
This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b).

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol</td>
<td>67-63-0</td>
</tr>
<tr>
<td>SARAS 313:</td>
<td>1 % de minimis concentration (only if manufactured by the strong acid process, no supplier notification)</td>
</tr>
</tbody>
</table>

Not listed under California Proposition 65

Canadian WHMIS Ingredient Disclosure List (IDL)
Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL.

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol</td>
<td>67-63-0</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
</tr>
</tbody>
</table>

Section 16 - OTHER INFORMATION

Summary of Changes
New SDS: May 6, 2015

Key / Legend
ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NITSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH - Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States; WHMIS - Workplace Hazardous Materials Information System
Safety Data Sheet

Material Name: Gut Solution

Other Information

Disclaimer:
The information and recommendations in this safety data sheet are based on sources believed to be accurate as of the date of issue. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. Covidien LP makes NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED and usage of this safety data sheet shall not establish a legal, contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose. Covidien LP assumes no responsibility for injury to vendee or third party person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, Covidien LP assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Users should ensure that any use or disposal of the material is in accordance with applicable national, country, federal, state, and local laws, directives, orders and regulations.