1. Identification

1.1. Product identifier

Product Identity: Acticoat (with SILCRYST Nanocrystals) Post-Op Dressing
(Acticoat is a trademark of Smith & Nephew)

Alternate Names: Acticoat Surgical Dressing

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

Intended use: Medical device used for infection control.

Application Method: See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name: Smith & Nephew
970 Lake Carillon Drive, Suite 110
St. Petersburg, FL 33716

Emergency Customer Service: Smith & Nephew 1-800-876-1261

2. Hazard(s) identification

2.1. Classification of the substance or mixture

Acute Tox. 4;H332 Harmful if inhaled.
Eye Dam. 1;H318 Causes serious eye damage.
Skin Sens. 1;H317 May cause an allergic skin reaction.
Resp. Sens. 1;H334 May cause allergy or asthmatic symptoms of breathing difficulties if inhaled.
Carc. 2;H351 Suspected of causing cancer.
Aquatic Chronic 1;H410 Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

Danger

H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H334 May cause allergic or asthmatic symptoms or breathing difficulties if inhaled.
H351 Suspected of causing cancer.
H410 Very toxic to aquatic life with long lasting effects.
Safety Data Sheet
Acticoat (with SILCRYST Nanocrystals) Post-Op Dressing

[Prevention]:
P201 Obtain special instructions before use.
P202 Do not handles until all safety precautions have been read and understood.
P261 Avoid breathing dust / fume / gas / mist / vapors / spray.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves / eye protection / face protection.

[Response]:
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P308+313 IF exposed or concerned: Get medical advice / attention.
P310 Immediately call a POISON CENTER or doctor / physician.
P321 Specific treatment (see information on this label).
P333+313 If skin irritation or a rash occurs: Get medical advice / attention.
P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P341 If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342+311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor / physician.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.

[Storage]:
P405 Store locked up.

[Disposal]:
P501 Dispose of contents / container in accordance with local / national regulations.

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

<table>
<thead>
<tr>
<th>Ingredient/Chemical Designations</th>
<th>Weight %</th>
<th>GHS Classification</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urethane Prepolymer</td>
<td>10-25</td>
<td>Not Classified</td>
<td>[1]</td>
</tr>
<tr>
<td>CAS Number: 0053426-99-6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silver</td>
<td>1.0-10</td>
<td>Not Classified</td>
<td>[1][2]</td>
</tr>
<tr>
<td>CAS Number: 0007440-22-4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silver oxide</td>
<td>1.0-10</td>
<td>Ox. Sol. 1;H271</td>
<td>[1]</td>
</tr>
<tr>
<td>CAS Number: 0020667-12-3</td>
<td></td>
<td>Eye Dam. 1; H318</td>
<td></td>
</tr>
<tr>
<td>Polyethylene-polypropylene glycol</td>
<td>1.0-10</td>
<td>Aquatic Chronic 1;H440</td>
<td></td>
</tr>
<tr>
<td>CAS Number: 0009003-11-6</td>
<td></td>
<td>Aquatic Chronic 3;H412</td>
<td></td>
</tr>
</tbody>
</table>

[1]的成绩

SDSUM01028 Page 2 of 11 Revision E
## 4. First aid measures

### 4.1. Description of first aid measures

**General**

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

**Inhalation**

This dressing does not present an inhalation hazard.

**Eyes**

Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

**Skin**

Obtain medical attention in the event skin irritation develops or persists.

**Ingestion**

If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

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

**Overview**

**Acute Effects**

Temporary discoloration of affected areas or rashes and irritation in sensitized individuals.

**Eye:** Corneal irritation may occur as a result of mechanical abrasion. In the event of eye irritation, flush eyes with flowing water.

**Skin:** Skin irritation may result as an allergic reaction to the silver content of the dressing. Obtain medical attention in the event irritation develops or persists.

**Ingestion:** Ingestion of the dressing may cause a choking hazard or internal blockage. Obtain medical attention.

**Chronic Effects**

Excessive or chronic exposure to silver by skin contact, ingestion or inhalation may cause Argyrosis - a local or generalized discoloration of the eyes, skin and mucous membranes, where grey or blue patches of pigmentation are formed.

Possible cancer hazard. Contains an ingredient which may cause cancer based on animal data (See Section 3 and Section 15 for each ingredient). Risk of cancer depends on duration and level of exposure.

See section 2 for further details.
Safety Data Sheet
Acticoat (with SILCRYST Nanocrystals) Post-Op Dressing

Inhalation
Harmful if inhaled. May cause allergy or asthma symptoms of breathing difficulties if inhaled.

Eyes
Causes serious eye damage.

Skin
May cause an allergic skin reaction.

5. Fire-fighting measures

5.1. Extinguishing media
Dressing is not reactive to water or other means of extinguishment. If involved in a fire, treat as a flammable solid.

5.2. Special hazards arising from the substance or mixture
Hazardous decomposition: No hazardous decomposition data available.
Avoid breathing dust / fume / gas / mist / vapors / spray.

5.3. Advice for fire-fighters
A Self-Contained Breathing Apparatus should be worn.
Do not release runoff from fire control methods to sewers or waterways.

ERG Guide No. ----

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions
Do not allow spills to enter drains or waterways.
Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up
Treat used dressing as medical waste. No special spill procedures required.

7. Handling and storage

7.1. Precautions for safe handling
No special handling procedures required. If used, handle as per medical waste.
See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities
Handle containers carefully to prevent damage and spillage.
Incompatible materials: The silver coating is incompatible with these products: Acetylene, Acids, Amines, Ammonia, Hydrazine, Metal Sulfides, Peroxides, Strong oxidizers.
Store in a cool, dry environment. Keep away from moisture. Avoid extreme heat and strong oxidizing agents.
See section 2 for further details. - [Storage]:

7.3. Specific end use(s)
No data available.
# 8. Exposure controls and personal protection

## 8.1. Control parameters

### Exposure

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Ingredient</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0005124-30-1</td>
<td>Isocyanic acid, methylenedi-4,1-cyclohexylene ester</td>
<td>OSHA</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>TWA: 0.005 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>C 0.01 ppm (0.11 mg/m^3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier</td>
<td>No Established Limit</td>
</tr>
<tr>
<td>0007440-22-4</td>
<td>Silver</td>
<td>OSHA</td>
<td>TWA 0.01 mg/m^3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>TWA: 0.01 mg/m^3; STEL: 0.03 mg/m^3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>TWA 0.01 mg/m^3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier</td>
<td>No Established Limit</td>
</tr>
<tr>
<td>0009003-11-6</td>
<td>Polyethylene-polypropylene glycol</td>
<td>OSHA</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier</td>
<td>No Established Limit</td>
</tr>
<tr>
<td>0020667-12-3</td>
<td>Silver oxide</td>
<td>OSHA</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier</td>
<td>No Established Limit</td>
</tr>
<tr>
<td>0026471-62-5</td>
<td>Toluene di-isocyanate</td>
<td>OSHA</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier</td>
<td>No Established Limit</td>
</tr>
<tr>
<td>0053426-99-6</td>
<td>Urethane Prepolymer</td>
<td>OSHA</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier</td>
<td>No Established Limit</td>
</tr>
</tbody>
</table>

### Carcinogen Data

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Ingredient</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0005124-30-1</td>
<td>Isocyanic acid, methylenedi-4,1-cyclohexylene ester</td>
<td>OSHA</td>
<td>Select Carcinogen: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NTP</td>
<td>Known: No; Suspected: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IARC</td>
<td>Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;</td>
</tr>
<tr>
<td>0007440-22-4</td>
<td>Silver</td>
<td>OSHA</td>
<td>Select Carcinogen: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NTP</td>
<td>Known: No; Suspected: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IARC</td>
<td>Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;</td>
</tr>
</tbody>
</table>
8.2. Exposure controls

Respiratory          No special protection is required.
Eyes                No special protection is required.
Skin                No special protection is required.
Engineering Controls None required.
Other Work Practices Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Grey/Brown Non-woven Fabric</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation rate (Ether = 1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Lower Explosive Limit: Not available</td>
</tr>
<tr>
<td></td>
<td>Upper Explosive Limit: Not available</td>
</tr>
<tr>
<td>Vapor pressure (Pa)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Sparingly</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (Log Kow)</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity (cSt)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

10.1. Reactivity
Hazardous Polymerization will not occur.

10.2. Chemical stability
Stable under normal circumstances.

10.3. Possibility of hazardous reactions
Fiber will gel or dissolve in an aqueous solution containing sodium or certain ions.

10.4. Conditions to avoid
Avoid extreme heat and strong oxidizing agents.

10.5. Incompatible materials
The silver coating is incompatible with these products: Acetylene, Acids, Amines, Ammonia, Hydrazine, Metal Sulfides, Peroxides, Strong oxidizers.

10.6. Hazardous decomposition products
No hazardous decomposition data available.

11. Toxicological information

Acute toxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Oral LD50, mg/kg</th>
<th>Skin LD50, mg/kg</th>
<th>Inhalation Vapor LC50, mg/L/4hr</th>
<th>Inhalation Dust/Mist LC50, mg/L/4hr</th>
<th>Inhalation Gas LC50, ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urethane Prepolymer - (53426-99-6)</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Silver - (7440-22-4)</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Silver oxide - (20667-12-3)</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Polyethylene-polypropylene glycol - (9003-11-6)</td>
<td>11,200.00, Rat - Category: NA</td>
<td>5,600.00, Rabbit - Category: NA</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Toluene di-isocyanate - (26471-62-5)</td>
<td>3,360.00, Rat - Category: 5</td>
<td>No data available</td>
<td>0.35, Rat - Category: 1</td>
<td>No data available</td>
<td>13.90, Rat - Category: 1</td>
</tr>
<tr>
<td>Isocyanic acid, methylenedi-4,1-cyclohexylene ester - (5124-30-1)</td>
<td>9,900.00, Rat - Category: NA</td>
<td>10,000.00, Rabbit - Category: NA</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Category</th>
<th>Hazard Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>4</td>
<td>Harmful if inhaled.</td>
</tr>
</tbody>
</table>
Safety Data Sheet
Acticoat (with SILCRYST Nanocrystals) Post-Op Dressing

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>1</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>1</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>1</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>2</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

12. Ecological information

12.1. Toxicity
Very toxic to aquatic life with long lasting effects.
Toxic to aquatic life
Aquatic Ecotoxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>96 hr LC50 fish, mg/l</th>
<th>48 hr EC50 crustacea, mg/l</th>
<th>ErC50 algae, mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urethane Prepolymer - (53426-99-6)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Silver - (7440-22-4)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Silver oxide - (20667-12-3)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Polyethylene-polypropylene glycol - (9003-11-6)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Toluene di-isocyanate - (26471-62-5)</td>
<td>133.00, Oncorhynchus mykiss</td>
<td>12.50, Daphnia magna</td>
<td>3,230.00 (96 hr), Skeletonema costatum</td>
</tr>
<tr>
<td>Isocyanic acid, methylenedi-4,1-cyclohexylene ester - (5124-30-1)</td>
<td>1.20, Danio rerio</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
There is no data available on the preparation itself.

12.3. Bioaccumulative potential
Not Measured

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects
No data available.
13. Disposal considerations

13.1. Waste treatment methods
Observe all federal, state and local regulations when disposing of this substance.

If unused, the silver may be recovered by recycling.

14. Transport information

14.1. UN number
DOT (Domestic Surface Transportation)  Not Applicable
IMO / IMDG (Ocean Transportation)  Not Regulated
ICAO/IATA  Not Regulated

14.2. UN proper shipping name
Not Regulated

14.3. Transport hazard class(es)
DOT Hazard Class: Not Applicable
IMDG: Not Applicable
Air Class: Not Applicable

14.4. Packing group
Not Applicable

14.5. Environmental hazards
IMDG  Marine Pollutant: Yes (Silver oxide)

14.6. Special precautions for user
No further information

15. Regulatory information

Regulatory Overview  The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA)  All components of this material are either listed or exempt from listing on the TSCA Inventory.

WHMIS Classification  D2A E

US EPA Tier II Hazards  Fire: No
Sudden Release of Pressure: No
Reactive: No
Immediate (Acute): Yes
Delayed (Chronic): Yes

EPCRA 311/312 Chemicals and RQs (lbs):
Silver  (1,000.00)

EPCRA 302 Extremely Hazardous:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:
Isocyanic acid, methylenedi-4,1-cyclohexylene ester
Silver
Silver oxide
Safety Data Sheet
Acticoat (with SILCRYST Nanocrystals) Post-Op Dressing

Toluene di-isocyanate

**Proposition 65 - Carcinogens (>0.0%):**
- Chromium (VI)
- Toluene di-isocyanate

**Proposition 65 - Developmental Toxins (>0.0%):**
- Chromium (VI)

**Proposition 65 - Female Repro Toxins (>0.0%):**
- Chromium (VI)

**Proposition 65 - Male Repro Toxins (>0.0%):**
- Chromium (VI)

**New Jersey RTK Substances (>1%):**
- Silver

**Pennsylvania RTK Substances (>1%):**
- Silver

### 16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

- **H271** May cause fire or explosion; strong oxidizer.
- **H315** Causes skin irritation.
- **H317** May cause an allergic skin reaction.
- **H318** Causes serious eye damage.
- **H319** Causes serious eye irritation.
- **H330** Fatal if inhaled.
- **H331** Toxic if inhaled.
- **H334** May cause allergic or asthmatic symptoms or breathing difficulties if inhaled.
- **H335** May cause respiratory irritation.
- **H351** Suspected of causing cancer.
- **H400** Very toxic to aquatic life.
- **H410** Very toxic to aquatic life with long lasting effects.
- **H412** Harmful to aquatic life with long lasting effects.

Not Classified

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

End of Document