3M Steri-Gas Sterilisation Cartridges

Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (Safe Work Australia, December 2011)

SECTION 1: Identification

1.1. Product identifier
3M Steri-Gas Sterilisation Cartridges

Product Identification Numbers

1.2. Recommended use and restrictions on use

Recommended use
Gas to sterilize in a 3M Steri-Vac(TM) Ethylene Oxide Sterilizer

For Industrial or Professional use only.

1.3. Supplier's details

Address: 3M Australia - Building A, 1 Rivett Road, North Ryde NSW 2113
Telephone: 136 136
E Mail: productinfo.au@mmm.com
Website: www.3m.com.au

1.4. Emergency telephone number

EMERGENCY: 1800 097 146 (Australia only)

SECTION 2: Hazard identification

This product is classified as a hazardous chemical according to the Model Work Health and Safety Regulations, 2011.

Refer to Section 14 of this Safety Data Sheets for product Dangerous Goods Classification.

2.1. Classification of the substance or mixture
Flammable gas: Category 1.
Gas under pressure: Liquefied gas.
Acute Toxicity (inhalation): Category 3.
Serious Eye Damage/Irritation: Category 2.
Skin Corrosion/Irritation: Category 2.
Reproductive Toxicity: Category 2.
Carcinogenicity: Category 1A.
Germ Cell Mutagenicity: Category 1B.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
The label elements below were prepared in accordance with the Code of Practice on Preparation of Safety Data Sheets for Hazardous Chemicals (Safe Work Australia, December 2011). This information may be different from the actual product label.

Signal word
DANGER!

Symbols
Flame | Gas cylinder | Skull and Crossbones | Health Hazard |

Pictograms

Hazard statements
H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
H331 Toxic if inhaled.
H319 Causes serious eye irritation.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.
H350 May cause cancer.
H340 May cause genetic defects.

H370 Causes damage to organs:
respiratory system  |

H372 Causes damage to organs through prolonged or repeated exposure:
nervous system  |

H373 May cause damage to organs through prolonged or repeated exposure:
kidney/urinary tract
sensory organs  |

Precautionary statements
Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P280B Wear protective gloves and eye/face protection.
P281 Use personal protective equipment as required.
3M Steri-Gas Sterilisation Cartridges

P270
Do not eat, drink or smoke when using this product.

P264
Wash thoroughly after handling.

Response:
P304 + P340
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313
If eye irritation persists: Get medical advice/attention.
P302 + P352
IF ON SKIN: Wash with plenty of soap and water.
P332 + P313
If skin irritation occurs: Get medical advice/attention.
P362 + P364
Take off contaminated clothing and wash it before reuse.
P307 + P311
IF exposed: Call a POISON CENTRE or doctor/physician.
P312
Call a POISON CENTRE or doctor/physician if you feel unwell.
P314
Get medical advice/attention if you feel unwell.
P377
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381
Eliminate all ignition sources if safe to do so.

Storage:
P410 + P403
Protect from sunlight. Store in a well-ventilated place.
P403 + P233
Store in a well-ventilated place. Keep container tightly closed.
P233
Keep container tightly closed.
P405
Store locked up.

Disposal:
P501
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Other assigned/identified product hazards
May cause frostbite.

2.4. Other hazards which do not result in classification
Harmful to aquatic life.

SECTION 3: Composition/information on ingredients

This material is a mixture.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Nbr</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>75-21-8</td>
<td>100</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
Remove person to fresh air. Get medical attention.

Skin contact
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye contact
Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.
If swallowed
Rinse mouth. Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a water spray or fog to extinguish, do not use straight streams. If water is not available use dry chemical, CO₂, or foam to extinguish. Use a fire fighting agent suitable for the surrounding fire. Refer to other precautionary advice in SDS section 5.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon monoxide.</td>
<td>During combustion.</td>
</tr>
<tr>
<td>Carbon dioxide.</td>
<td>During combustion.</td>
</tr>
</tbody>
</table>

5.3. Special protective actions for fire-fighters
Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

Hazchem Code: 2PE

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Eliminate all ignition sources if safe to do so. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial or professional use only. Do not use in a confined area with minimal air exchange. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Eliminate all ignition sources if safe to do so. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators…) as required. Recommendations
for storing Steri-Gas cartridges are stringent. Check your local fire protection codes for additional requirements. Keep all sources of ignition such as matches, lighted cigarettes, sparks and static discharge away from the sterilizer and cartridges. Store cartridges in an upright position. Keep only one day’s requirement or a maximum of twelve (12) cartridges (one box) in the immediate sterilizer area. This area needs to have at least ten air changes per hour. Additional Steri-Gas cartridges should be stored in an approved flammable liquid storage cabinet vented to the outside atmosphere, or in an area suitable for storage of flammable liquids appropriately vented to the outside atmosphere, or into a non-recirculating, continuously operating, dedicated exhaust system.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Store away from heat. Store away from acids. Store away from oxidising agents. Store away from areas where product may come into contact with food or pharmaceuticals.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Nbr</th>
<th>Agency</th>
<th>Limit type</th>
<th>Additional comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>75-21-8</td>
<td>Australia OELs</td>
<td>TWA(8 hours): 1.8 mg/m³ (1 ppm)</td>
<td></td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>75-21-8</td>
<td>Manufacturer determined</td>
<td>STEL: 5 ppm</td>
<td></td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>75-21-8</td>
<td>ACGIH</td>
<td>TWA: 1 ppm</td>
<td>A2: Suspected human carcin.</td>
</tr>
</tbody>
</table>

ACGIH: American Conference of Governmental Industrial Hygienists
AIHA: American Industrial Hygiene Association
Australia OELs: Australia. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment
CMRG: Chemical Manufacturer's Recommended Guidelines
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling
Sen: Sensitiser
Sk: Absorption through the skin may be a significant source of exposure.

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection
Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect vented goggles.

Select and use eye protection in accordance with AS/NZS 1336. Eye protection should comply with the performance specifications of AS/NZS 1337.

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the
substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Gloves made from the following material(s) are recommended: Butyl rubber.

Select and use gloves according to AS/NZ 2161.

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer. Select and use respirators according to AS/NZS 1715. Respirators should comply with AS/NZS 1716 performance specifications. For information about respirators, call 3M on 1800 024 464.

**Thermal hazards**

Wear cold insulating gloves/face shield/eye protection.

---

### SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Gas.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Physical Form:</td>
<td>Compressed gas.</td>
</tr>
<tr>
<td>Appearance/Odour</td>
<td>Colourless in normal use; Sweet odour at 500-750 ppm.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH</td>
<td>7</td>
</tr>
<tr>
<td>Melting point/Freezing point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Boiling point/Initial boiling point/Boiling range</td>
<td>10.6 ºC</td>
</tr>
<tr>
<td>Flash point</td>
<td>-20 ºC [Test Method: Tagliabue closed cup]</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Flammable gas: Category 1.</td>
</tr>
<tr>
<td>Flammable Limits(LEL)</td>
<td>3 % volume</td>
</tr>
<tr>
<td>Flammable Limits(UEL)</td>
<td>100 % volume</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>145,854.3 Pa [@ 20 °C ]</td>
</tr>
<tr>
<td>Vapour density</td>
<td>1.5 [Ref Std: AIR=1]</td>
</tr>
<tr>
<td>Density</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.87 [Ref Std: WATER=1] [Details:@ 20 °C]</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Complete</td>
</tr>
<tr>
<td>Solubility- non-water</td>
<td>No data available.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available.</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>428.9 ºC [Details: CONDITIONS: Burns in the absence of air]</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>No data available.</td>
</tr>
<tr>
<td>Volatile organic compounds (VOC)</td>
<td>100 %</td>
</tr>
<tr>
<td>Percent volatile</td>
<td>100 %</td>
</tr>
<tr>
<td>VOC less H2O &amp; exempt solvents</td>
<td>100 %</td>
</tr>
</tbody>
</table>

### SECTION 10: Stability and reactivity

10.1 Reactivity
This material is considered to be non reactive under normal use conditions

10.2 Chemical stability
Stable.

10.3. Conditions to avoid
Heat.

10.4. Possibility of hazardous reactions
Hazardous polymerisation may occur.

10.5 Incompatible materials
None known.

10.6 Hazardous decomposition products

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>None known.</td>
<td>None known.</td>
</tr>
</tbody>
</table>

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation
Toxic if inhaled.
Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause additional health effects (see below).

Skin contact
Frostbite: Signs/symptoms may include intense pain, discoloration of skin, and tissue destruction. Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Eye contact
Frostbite: Signs/symptoms may include intense pain, clouding of the cornea, redness, swelling, and blindness. Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.

Additional Health Effects:

Single exposure may cause target organ effects:
Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination,
nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness. Respiratory effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure.

**Prolonged or repeated exposure may cause target organ effects:**
Ocular effects: Signs/symptoms may include blurred or significantly impaired vision. Peripheral neuropathy: Signs/symptoms may include tingling or numbness of the extremities, incoordination, weakness of the hands and feet, tremors and muscle atrophy. Kidney/Bladder effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

**Reproductive/Developmental Toxicity:**
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**Genotoxicity:**
Genotoxicity and Mutagenicity: May interact with genetic material and possibly alter gene expression.

**Carcinogenicity:**
Contains a chemical or chemicals which can cause cancer.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

### Acute Toxicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>Inhalation-Gas (4 hours)</td>
<td>Rat</td>
<td>LC50 1,460 ppm</td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 330 mg/kg</td>
</tr>
</tbody>
</table>

ATE = acute toxicity estimate

### Skin Corrosion/Irritation

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>Rabbit</td>
<td>Irritant</td>
</tr>
</tbody>
</table>

### Serious Eye Damage/Irritation

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>official classification</td>
<td>Severe irritant</td>
</tr>
</tbody>
</table>

### Skin Sensitisation

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>Human and animal</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
</tbody>
</table>

### Respiratory Sensitisation

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>Human</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
</tbody>
</table>

### Germ Cell Mutagenicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>In vivo</td>
<td>Mutagenic</td>
</tr>
</tbody>
</table>
### Carcinogenicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>Inhalation</td>
<td>Multiple animal species</td>
<td>Carcinogenic.</td>
</tr>
</tbody>
</table>

### Reproductive Toxicity

#### Reproductive and/or Developmental Effects

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Value</th>
<th>Species</th>
<th>Test result</th>
<th>Exposure Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>Inhalation</td>
<td>Some positive developmental data exist, but the data are not sufficient for classification</td>
<td>Rat</td>
<td>NOAEL 33 ppm</td>
<td>during organogenesis</td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>Inhalation</td>
<td>Toxic to female reproduction</td>
<td>Rat</td>
<td>NOAEL 33 ppm</td>
<td>1 generation</td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>Inhalation</td>
<td>Toxic to male reproduction</td>
<td>Monkey</td>
<td>LOAEL 50 ppm</td>
<td>2 years</td>
</tr>
</tbody>
</table>

### Target Organ(s)

#### Specific Target Organ Toxicity - single exposure

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Target Organ(s)</th>
<th>Value</th>
<th>Species</th>
<th>Test result</th>
<th>Exposure Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>Inhalation</td>
<td>respiratory system</td>
<td>Causes damage to organs</td>
<td>Human and animal</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>Inhalation</td>
<td>central nervous system</td>
<td>May cause drowsiness or dizziness</td>
<td>Human</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>Inhalation</td>
<td>respiratory irritation</td>
<td>May cause respiratory irritation</td>
<td></td>
<td>NOAEL Not available</td>
<td></td>
</tr>
</tbody>
</table>

#### Specific Target Organ Toxicity - repeated exposure

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Target Organ(s)</th>
<th>Value</th>
<th>Species</th>
<th>Test result</th>
<th>Exposure Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>Inhalation</td>
<td>peripheral nervous system</td>
<td>Causes damage to organs through prolonged or repeated exposure</td>
<td>Human and animal</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>Inhalation</td>
<td>kidney and/or bladder</td>
<td>May cause damage to organs though prolonged or repeated exposure</td>
<td>Mouse</td>
<td>LOAEL 100 ppm</td>
<td>14 weeks</td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>Inhalation</td>
<td>eyes</td>
<td>May cause damage to organs though prolonged or repeated exposure</td>
<td>Human and animal</td>
<td>NOAEL Not available</td>
<td></td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>Inhalation</td>
<td>respiratory system</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td>Mouse</td>
<td>LOAEL 200 ppm</td>
<td>14 weeks</td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>Inhalation</td>
<td>endocrine system</td>
<td>Some positive data exist, but the data are not</td>
<td>Rat</td>
<td>NOAEL 100 ppm</td>
<td>2 years</td>
</tr>
</tbody>
</table>
Aspiration Hazard
For the component/components, either no data are currently available or the data are not sufficient for classification.

Exposure Levels
Refer Section 8.1 Control Parameters of this Safety Data Sheet.

Interactive Effects
Not determined.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
GHS Acute 3: Harmful to aquatic life.

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

No component test data available.

<table>
<thead>
<tr>
<th>Material</th>
<th>Organism</th>
<th>Type</th>
<th>Exposure</th>
<th>Test endpoint</th>
<th>Test result</th>
</tr>
</thead>
<tbody>
<tr>
<td>3M Steri-Gas Sterilisation Cartridges</td>
<td>Water flea</td>
<td>Laboratory</td>
<td>48 hours</td>
<td>137 mg/l</td>
<td></td>
</tr>
<tr>
<td>3M Steri-Gas Sterilisation Cartridges</td>
<td>Fathead minnow</td>
<td>Laboratory</td>
<td>96 hours</td>
<td>84 mg/l</td>
<td></td>
</tr>
<tr>
<td>3M Steri-Gas Sterilisation Cartridges</td>
<td>Goldfish</td>
<td>Laboratory</td>
<td>24 hours</td>
<td>90 mg/l</td>
<td></td>
</tr>
</tbody>
</table>
12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Material</th>
<th>CAS Number</th>
<th>Test type</th>
<th>Duration</th>
<th>Study Type</th>
<th>Test result</th>
<th>Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>75-21-8</td>
<td>Experimental Hydrolysis</td>
<td></td>
<td>Hydrolytic half-life</td>
<td>12.9 days (t 1/2)</td>
<td>Other methods</td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>75-21-8</td>
<td>Experimental Biodegradation</td>
<td>28 days</td>
<td>BOD</td>
<td>107 % weight</td>
<td>OECD 301C - MITI test (I)</td>
</tr>
</tbody>
</table>

12.3: Bioaccumulative potential

<table>
<thead>
<tr>
<th>Material</th>
<th>CAS Number</th>
<th>Test type</th>
<th>Duration</th>
<th>Study Type</th>
<th>Test result</th>
<th>Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>75-21-8</td>
<td>Experimental Bioaccumulation</td>
<td></td>
<td>Log Kow</td>
<td>-0.30</td>
<td>Other methods</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available.

**SECTION 13: Disposal considerations**

13.1. Disposal methods

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

Dispose of waste product in a permitted industrial waste facility. The facility should be equipped to handle gaseous waste.

**SECTION 14: Transport Information**

**Australian Dangerous Goods Code (ADG) - Road/Rail Transport**

UN No.: UN1040
Proper shipping name: ETHYLENE OXIDE
Class/Division: 2.3
Sub Risk: 2.1
Packing Group: Not applicable.

Hazchem Code: 2PE
IERG: OSP

**International Air Transport Association (IATA) - Air Transport**

UN No.: UN1040
Proper shipping name: ETHYLENE OXIDE
Class/Division: 2.3
Sub Risk: 2.1
Packing Group: Not applicable.
Special Instructions: FORBIDDEN NOT ALLOWED BY THE REGULATORY AGENT

**International Maritime Dangerous Goods Code (IMDG)- Marine Transport**

UN No.: UN1040
Proper shipping name: ETHYLENE OXIDE
Class/Division: 2.3
Sub Risk: 2.1
Packing Group: Not applicable.
Marine Pollutant: Not applicable.
Special Instructions: TOXIC-INHALATION HAZARD, ZONE D, VENTILATE FREIGHT CONTAINER 30 MINUTES PRIOR TO UNLOADING

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Australian Inventory Status:
This product is regulated by the Therapeutics Goods Administration and is exempt from compliance with the Industrial Chemicals (Notification and Assessment) Act 1989 as amended.

Poison Schedule: This product is intended for Industrial or Professional Use only and therefore is not packaged and labelled in accordance with the requirements of the Standard for the Uniform Scheduling of Medicines and Poisons.

SECTION 16: Other information

Revision information:
Update to product identification numbers.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Safety Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

Greenguard ® is a United States based program. The ‘Low VOC’ reference related to United States Federal and State regulations exemptions for some solvents.

3M Australia SDSs are available at www.3m.com.au