Safety Data Sheet

This Safety Data Sheet has been prepared in accordance with the SS586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods.

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SECTION 1: Identification

1.1. Product identifier
Skin and Nasal Antiseptic Patient Preoperative Skin Preparation

1.2. Recommended use and restrictions on use

Recommended use
Topical Antimicrobial

1.3. Supplier's details
Address: 3M Technologies (S) Pte Ltd,10 Ang Mo Kio Street 65, Singapore 569059
Telephone: +65 6450 8888
Website: www.3m.com.sg

1.4. Emergency telephone number
+65 6591 6888 (8.15am - 5.00pm, Monday - Friday)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Serious Eye Damage/Irritation: Category 1.
Specific Target Organ Toxicity (repeated exposure): Category 2.
Chronic Aquatic Toxicity: Category 2.

2.2. Label elements
SIGNAL WORD
DANGER!

Symbols
Corrosion | Health Hazard | Environment |

Pictograms

HAZARD STATEMENTS

H318	Causes serious eye damage.
	endocrine system |
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280A	Wear eye/face protection.
P280E	Wear protective gloves.
P273	Avoid release to the environment.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.

Disposal:

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

2.3. Other hazards

This material has been tested for skin corrosion/irritation and the test results do not meet the criteria for classification. This material has been tested for skin sensitization and the test results do not meet the criteria for classification.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Water	7732-18-5	60 - 80
OTHER ORGANICS	Mixture	5 - 15
DL-MALIC ACID	617-48-1	1 - 7
Iodine	25655-41-8	1 - 5
L-LACTIC ACID	79-33-4	1 - 5
POLYOXYETHYLENE 20 STEARYL ETHER	9005-00-9	1 - 3
SODIUM IODIDE	7681-82-5	1 - 3
alkyl PEG ether	73361-29-2	0.5 - 1.5

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Remove person to fresh air. If you feel unwell, get medical attention.

Skin contact

Wash with soap and water. If you feel unwell, 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. If you feel unwell, get medical attention.

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

Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision). Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

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 fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.

5.3. Special protective actions for fire-fighters
Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. 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. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with detergent and water. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial/occupational use only. Not for consumer sale or use. 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.

7.2. Conditions for safe storage including any incompatibilities
Store away from acids.

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.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
IODIDES, INHALABLE FRACTION	7681-82-5	ACGIH	TWA(inhalable fraction and vapor):0.01 ppm	A4: Not class. as human carcin

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
Singapore PELs : Singapore. Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

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:
Full face shield.
Indirect vented goggles.

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.
Nitrile rubber.
Natural rubber.

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:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid. viscous
Color	Brown, Red
Odor	Slight Iodine
Odour threshold	*No data available.*
pH	3 - 3.8
Melting point/Freezing point	*No data available.*
Boiling point/Initial boiling point/Boiling range	100 ºC
Flash point	Flash point > 93 °C (200 °F) [*Test Method:*Closed Cup]
Evaporation rate	*No data available.*
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*Not applicable.*
Vapor Density and/or Relative Vapor Density	*Not applicable.*
Density	1.07 g/cm3
Relative density	1.07 [*Ref Std:*WATER=1]
Water solubility	Appreciable
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*Not applicable.*
Decomposition temperature	*No data available.*
Viscosity/Kinematic Viscosity	*No data available.*

SECTION 10: Stability and reactivity

10.1 Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
Not determined

10.5 Incompatible materials
Strong acids.

10.6 Hazardous decomposition products

Substance	**Condition**
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

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
Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin contact
Contact with the skin during product use is not expected to result in significant irritation.

Eye contact
Corrosive (eye burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
Endocrine effects: Signs/symptoms may include disruption of gonadal, thyroid, adrenal, or pancreatic function, changes in hormone production, alterations in circulating hormone levels, and/or changes in tissue response to hormones.

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

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
OTHER ORGANICS	Dermal		LD50 estimated to be > 5,000 mg/kg
OTHER ORGANICS	Ingestion	Rat	LD50 16,500 mg/kg
POLYOXYETHYLENE 20 STEARYL ETHER	Ingestion	Rat	LD50 > 21,000 mg/kg
POLYOXYETHYLENE 20 STEARYL ETHER	Dermal	similar compounds	LD50 estimated to be 2,000 - 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
POLYOXYETHYLENE 20 STEARYL ETHER	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
POLYOXYETHYLENE 20 STEARYL ETHER	Rabbit	No significant irritation

Sensitization:

Skin Sensitisation

Name	Species	Value
Overall product	Guinea pig	Not classified
POLYOXYETHYLENE 20 STEARYL ETHER	similar compounds	Not classified

Respiratory Sensitisation
For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
POLYOXYETHYLENE 20 STEARYL ETHER	In Vitro	Not mutagenic

Carcinogenicity
For the component/components, either no data are currently available or the data are not sufficient for classification.

Reproductive Toxicity

Reproductive and/or Developmental Effects
For the component/components, either no data are currently available or the data are not sufficient for classification.

Target Organ(s)

Specific Target Organ Toxicity - single exposure
For the component/components, either no data are currently available or the data are not sufficient for classification.

Specific Target Organ Toxicity - repeated exposure
For the component/components, either no data are currently available or the data are not sufficient for classification.

Aspiration Hazard
For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

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 2: Toxic to aquatic life.

Chronic aquatic hazard:
GHS Chronic 2: Toxic to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
OTHER ORGANICS	Mixture	Water flea	Experimental	48 hours	LC50	48,500 mg/l
DL-MALIC ACID	617-48-1	Green algae	Analogous Compound	72 hours	ErC50	>100 mg/l
DL-MALIC ACID	617-48-1	Zebra Fish	Analogous Compound	96 hours	LC50	>100 mg/l
DL-MALIC ACID	617-48-1	Water flea	Experimental	48 hours	LC50	240 mg/l
DL-MALIC ACID	617-48-1	Green algae	Analogous Compound	72 hours	NOEC	100 mg/l
DL-MALIC ACID	617-48-1	Activated sludge	Analogous Compound	3 hours	EC50	>300 mg/l
Iodine	25655-41-8	Golden Orfe	Experimental	96 hours	LC50	4.6 mg/l
Iodine	25655-41-8	Green algae	Experimental	72 hours	ErC50	4.91 mg/l
Iodine	25655-41-8	Water flea	Experimental	48 hours	EC50	2.79 mg/l
Iodine	25655-41-8	Bacteria	Experimental	17 hours	EC10	270 mg/l
L-LACTIC ACID	79-33-4	Activated sludge	Experimental	3 hours	NOEC	>=88.2 mg/l
L-LACTIC ACID	79-33-4	Green algae	Laboratory	72 hours	EC50	3,500 mg/l
L-LACTIC ACID	79-33-4	Water flea	Laboratory	48 hours	EC50	130 mg/l
L-LACTIC ACID	79-33-4	Zebra Fish	Laboratory	96 hours	LC50	195 mg/l
L-LACTIC ACID	79-33-4	Green algae	Laboratory	72 hours	NOEC	1,900 mg/l
POLYOXYETHYLENE 20 STEARYL ETHER	9005-00-9	Brown trout	Analogous Compound	96 hours	LC50	0.4 mg/l
POLYOXYETHYLENE 20 STEARYL ETHER	9005-00-9	Green algae	Analogous Compound	72 hours	EC50	>100 mg/l
POLYOXYETHYLENE 20 STEARYL ETHER	9005-00-9	Water flea	Analogous Compound	48 hours	EC50	0.72 mg/l
POLYOXYETHYLENE 20 STEARYL ETHER	9005-00-9	Green algae	Analogous Compound	72 hours	NOEL	>10 mg/l
POLYOXYETHYLENE 20 STEARYL ETHER	9005-00-9	Activated sludge	Analogous Compound	3 hours	EC50	140 mg/l
POLYOXYETHYLENE 20 STEARYL ETHER	9005-00-9	Redworm	Analogous Compound	14 days	LC50	>1,000 mg/kg (Dry Weight)
SODIUM IODIDE	7681-82-5	Water flea	Experimental	48 hours	LC50	0.2 mg/l

SODIUM IODIDE	7681-82-5	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
alkyl PEG ether	73361-29-2		Data not available or insufficient for classification			N/A

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
OTHER ORGANICS	Mixture	Experimental Biodegradation	14 days	BOD	82 %BOD/ThBOD	OECD 301C - MITI test (I)
DL-MALIC ACID	617-48-1	Experimental Biodegradation	14 days	BOD	73 %BOD/ThBOD	OECD 301C - MITI test (I)
Iodine	25655-41-8	Experimental Biodegradation	28 days	CO2 evolution	<10 %CO2 evolution/THCO2 evolution	ISO 14593 Inorg C Headspace
L-LACTIC ACID	79-33-4	Experimental Biodegradation	20 days	BOD	67 %BOD/ThBOD	Non-standard method
POLYOXYETHYLENE 20 STEARYL ETHER	9005-00-9	Analogous Compound Biodegradation	28 days	CO2 evolution	83.6 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
POLYOXYETHYLENE 20 STEARYL ETHER	9005-00-9	Analogous Compound Biodegradation	28 days	CO2 evolution	85.3 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
SODIUM IODIDE	7681-82-5	Data not available-insufficient	N/A	N/A	N/A	N/A
alkyl PEG ether	73361-29-2	Data not available-insufficient	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
OTHER ORGANICS	Mixture	Estimated Bioconcentration		Bioaccumulation factor	2.3	Estimated: Bioconcentration factor
DL-MALIC ACID	617-48-1	Experimental Bioaccumulation		Log Kow	-1.26	
DL-MALIC ACID	617-48-1	Modeled Mobility in Soil		Koc	1 l/kg	ACD/Labs ChemSketch™
Iodine	25655-41-8	Unknown Bioconcentration		Log Kow	0.81	
L-LACTIC ACID	79-33-4	Estimated Bioconcentration		Log Kow	-0.54	Non-standard method
POLYOXYETHYLENE 20	9005-00-9	Analogous Compound	24 hours	Bioaccumulation factor	387.5	

STEARYL ETHER		BCF - Fathead Minnow				
POLYOXYETHYLENE 20 STEARYL ETHER	9005-00-9	Analogous Compound Bioconcentration		Log Kow	4.65	OECD 123 log Kow slow stir
SODIUM IODIDE	7681-82-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
alkyl PEG ether	73361-29-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

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. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

International Regulations

UN No.: None assigned
UN Proper shipping name: None assigned

Transportation Class (IMO): None assigned
Transportation Class (IATA): None assigned
Other Dangerous Goods Descriptions (IMO): None assigned
Other Dangerous Goods Descriptions (IATA): None assigned
Packing Group: None assigned
Marine pollutant: None assigned

SECTION 15: Regulatory information

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

Global inventory status
Contact 3M for more information.

SECTION 16: Other information

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 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.

3M Singapore SDSs are available at www.3m.com.sg