

MATERIAL SAFETY DATA SHEET**SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION****Product Identifier:**

Product Form: Mixture
Product Name: Microbecide® Silver Ion Complex
Product No.: 1004
Chemical Family: Silver Dihydrogen Citrate (Electrolytically-generated silver ions stabilized in citric acid)

Intended Use Of The Product:

Use of the mixture: Broad Spectrum Antibiosis Agent

Manufacturer's Name and Address:

World Changing Technologies Pte Ltd
 8 Burn Road
 #08-02/03 Trivex
 Singapore 369977
 Tel: (65) 6717 6352
 E-mail: service@wctinfo.com

Emergency Telephone Number:

Emergency number: (65) 6717 6352

SECTION 2 – HAZARDS IDENTIFICATION

Caution: Direct, prolonged contact may cause slight eye irritation. Avoid prolonged, direct contact with eyes. If irritation occurs, flush thoroughly with large amount of water.

SECTION 3 – COMPOSITION, INFORMATION ON INGREDIENTS

None of the ingredients are considered hazardous according to the criteria of 29CFR1910.1200 and DOT Reg 49 CFR172.

Ingredient	CAS No.	Percent % (Volume)	OSHA PEL		ACGIH TLV	
			PEL	STEL	TWA	STEL
Silver Ions (Electrolytically Generated)	14701-21-4	0.003	None	N/Av	None	N/Av
Citric Acid, Anhydrous	77-92-9	4.8	None	N/Av	None	N/Av
Water	7732-18-5	95.19	None	N/Av	None	N/Av

SECTION 4 – FIRST AID MEASURES

- Eye contact:** Hold eyes open and flush thoroughly with a steady, gentle stream of water as necessary. Get medical attention if irritation persists.
- Skin contact:** If irritation occurs, rinse with water. Get medical attention if irritation persists. Does not stain skin.
- Ingestion:** Do not induce vomiting. If irritation occurs consult a physician.
- Inhalation:** If breathing is affected, remove to fresh air.

SECTION 5 – FIRE FIGHTING MEASURES

Flammability: Not flammable. Not combustible.

Flammability Limits: Not applicable

Extinguishing media: Not applicable

Fire and explosion hazards: None

SECTION 6 – ACCIDENTAL RELEASE MEASURES

- Prohibited materials:** None known.
- Spill response / cleanup:** Stop leak as quickly as possible, contain spill, and wash area with water.
- Special spill response procedures:** None required.

SECTION 7 – HANDLING AND STORAGE

- Safe handling procedures:** Keep container closed when not in use. Protect containers against physical damage.
- Storage requirements:** Store in a cool, dry, ventilated area away from sources of heat. Keep from freezing, keep out of direct sunlight. Inspect periodically for damage or leaks.

SECTION 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

No special protection or precautions have been identified for using this product under directed consumer use conditions. The following recommendations are given for production facilities and for other conditions and situations where there is increased potential for accidental, large-scale or prolonged exposure.

- Ventilation/ engineering controls:** Use adequate ventilation to maintain air contaminants.
- Skin protection / other protective equipment:** None normally required.
- Eye / face protection:** None normally required.
- Permissible exposure levels:** For individual ingredient exposure levels, see Section 2.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

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Physical state, odor and appearance: Clear, colorless, odorless aqueous solution.

Odor threshold: Not applicable

pH: 1.4 1.6

Specific gravity: 1.091 (Determined at standard temperature and pressure)

Solubility: Water Soluble

VOC Content: (% Wt): 0.00% (0.00 lbs/gallon)

SECTION 10 – STABILITY AND REACTIVITY

Stability and reactivity: Stable under normal storage and handling conditions.

Hazardous polymerization: Will not occur.

Conditions to avoid: Light sensitive.

Hazardous decomposition products: None known

SECTION 11 – TOXICOLOGICAL INFORMATION

Toxicological data; This product does not contain any known or anticipated carcinogens according to the criteria of the NTP Annual Report on Carcinogens and OSHA 29 CFR 1910.1000, Subpart Z.

Ingredient	LD ₅₀ (mg/kg)	
	acute oral, rat	acute dermal, rabbit
Silver, ionic	>5000 mg/kg	>5000 mg/kg
Citric Acid Anhydrous	>5000 mg/kg	>5000 mg/kg

Carcinogenicity: None of the ingredients listed are classified as carcinogenic by ACGIH, IARC, NIOSH, NTP or OSHA

Epidemiology: N/Av

Teratogenicity: N/Av

Neurotoxicity: N/Av

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity: None known

Environmental fate: Readily degraded

SECTION 13 – DISPOSAL CONSIDERATIONS

Methods of disposal: Dispose of in a manner consistent with federal, state and local regulations.

SECTION 14 – TRANSPORT INFORMATION

Not classified as hazardous for transport (ADR/RID, ADNR, IMDG, ICAO/IATA)

DOT PSN Code: AHD

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DOT Proper Shipping Name: Microbecide Silver Ion Complex

DOT Class: 5 Disinfectant

SECTION 15 – REGULATORY INFORMATION

Toxic Substances Control Act (TSCA)

Health and Safety Reporting List - None of the chemicals are on the Health & Safety Reporting List

Chemical Test Rules - None of the chemicals are under a Chemical Test Rule.

Sections 12b - None of the chemicals are listed under TSCA 12b.

TSCA Significant New Use Rule - None of the chemicals in this material have a SNUR under TSCA

Superfund Amendments and Reauthorization Act (SARA)

Section 302 Q (RQ) - None of the chemicals in this product have an RQ.

Section 302 (TPQ) - None of the chemicals in this product have a TPQ.

SARA Codes - CAS # 151-21-3: Aqueous, non-acute

Section 313 - None of the chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

Occupational Safety and Health Administration (OSHA):

None of the chemicals in this product are considered hazardous by OSHA.

SECTION 16 – ADDITIONAL INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall World Changing Technologies Pte Ltd be liable for any claims, losses, or damages of any third party or for lost profits of any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if World Changing Technologies Pte Ltd has been advised of the possibility of such damages.

References:

ACGIH, Threshold Limit Values and Biological Exposure Indices for 2006

US EPA Title III List of Lists – January, 2005 version

Legend:

ACGIH – American Conference of Governmental Industrial Hygienists

AIHA – American Industrial Hygiene Association

CAS – Chemical Abstract Services

CFR – US Code of Federal Regulations

DOT – US Department of Transportation

EPA – US Environmental Protection Agency

HMIS – Hazardous Materials Identification System

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IARC – International Agency for Research on Cancer
NIOSH – National Institute of Occupational Safety and Health
NTP – National Toxicology Program
OSHA – US Occupational Safety and Health Administration
PEL – Permissible Exposure Limit
SARA – US Superfund Amendments and Reauthorization Act
STEL – Short Term Exposure Limit
TLV – Threshold Limit Values
TSCA – Toxic Substance Control Act
TWA – Time Weighted Average