Safety Data Sheet

Issue Date: 04-Apr-2019 **Revision Date:** 11-Mar-2020 **Version** 1

1. IDENTIFICATION

Product identifier

Product Name Birko-Ox

Other means of identification

SDS # BIR-102
EPA Registration No 63838-1-10147
UN/ID No UN3098

Recommended use of the chemical and restrictions on use

Recommended Use Antimicrobial solution.

Details of the supplier of the safety data sheet

Supplier Address
Birko Corporation
9152 Yosemite Street
Henderson, CO 80640-8027
www.birkocorp.com

Emergency telephone number

Company Phone Number Phone: 303-289-1090 or 1-800-525-0476
Fax: 303-289-1190
Emergency Telephone Chemtrec 1-800-424-9300 (North America) 1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Appearance Clear, colorless liquid **Physical state** Liquid **Odor** Vinegar

Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Oxidizing liquids	Category 2
Corrosive to metals	Category 1

Signal Word
Danger

Hazard statements
Harmful if inhaled
Causes severe skin burns and eye damage
May intensify fire; oxidizer
May be corrosive to metals

Precautionary Statements - Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Keep away from heat
Keep/Store away from clothing and other combustible materials
Take any precaution to avoid mixing with combustibles
Keep only in original container

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
Wash contaminated clothing before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Immediately call a POISON CENTER or doctor
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
In case of fire: Use CO_2, dry chemical, or foam for extinction
IN CASE OF SPILL: Absorb spillage to prevent material damage

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up
Store in corrosive resistant container with a resistant inner liner

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other hazards
Toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Hydrogen Peroxide	7722-84-1	25-27.4
Acetic acid	64-19-7	3-8
Peroxyacetic acid	79-21-0	5-5.9

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General Advice Immediately call a poison center or doctor/physician.

Eye Contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

Skin Contact Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

Inhalation Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor/physician.

Ingestion Rinse mouth. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms May be harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Water spray (fog). Powder. Foam. Carbon dioxide (CO2).

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical
May intensify fire; oxidizer.

Hazardous combustion products May cause fire and explosions when in contact with incompatible materials.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

Environmental precautions

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up SMALL SPILLS (less than 1 gallon): Neutralize with soda ash or cover with dry earth, sand or other non combustible material, place into loosely covered plastic containers for later disposal. If neutralized, material can be diluted into drain. LARGE SPILLS: Restrict access to area until completion of clean up. Prevent liquid from entering sewers or waterways. Stop or reduce leak if safe to do so. Dike with inert material (sand, earth, etc.). Collect into plastic containers for disposal. Ensure adequate decontamination of tools and equipment following clean up.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Do not breathe dusts or mists. Use only outdoors or in a well-ventilated area. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing and eye/face protection. Keep away from heat. Keep/store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Keep only in original container.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner.

Incompatible Materials Bases. Metals. Reducing agents. Combustible material.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrogen Peroxide 7722-84-1	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m^3 (vacated) TWA: 1 ppm (vacated) TWA: 1.4 mg/m^3	IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m^3
Acetic acid 64-19-7	STEL: 15 ppm TWA: 10 ppm	TWA: 10 ppm TWA: 25 mg/m^3 (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m^3	IDLH: 50 ppm TWA: 10 ppm TWA: 25 mg/m^3 STEL: 15 ppm STEL: 37 mg/m^3
Peroxyacetic acid 79-21-0	STEL: 0.4 ppm inhalable fraction and vapor	-	-

Appropriate engineering controls

Engineering Controls Showers. Eyewash stations. Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Chemical goggles or full face shield.

Skin and Body Protection Chemical resistant protective gloves. Chemical resistant clothing.

Respiratory Protection In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	Clear, colorless liquid	**Odor**	Vinegar
Color	Colorless	**Odor Threshold**	Not determined

Property	Values	Remarks • Method
pH	1.5-1.9 (1:10)	
Melting point / freezing point	Not determined	
Boiling point / boiling range	Not determined	
Flash point	>93 °C / >200 °F	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid-Not applicable	
Flammability Limit in Air		
Upper flammability or explosive limits	Not determined	
Lower flammability or explosive limits	Not determined	
Vapor Pressure	22	
Vapor Density	Not determined	
Relative Density	1.12	
Water Solubility	Completely soluble	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Autoignition temperature	>270 °C / >518 °F	
Decomposition temperature	Not determined	
Kinematic viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to Avoid
Incompatible Materials. High heat, spark, and open flames.

Incompatible materials
Bases. Metals. Reducing agents. Combustible material.

Hazardous decomposition products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Avoid contact with eyes.

Skin Contact Avoid contact with skin.

Inhalation Harmful if inhaled.

Ingestion May be harmful if swallowed.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Hydrogen Peroxide 7722-84-1	= 1518 mg/kg (Rat)	= 9200 mg/kg (Rabbit)	= 2000 mg/m^3 (Rat) 4 h
Acetic acid 64-19-7	= 3310 mg/kg (Rat)	= 1060 mg/kg (Rabbit)	= 11.4 mg/L (Rat) 4 h
Peroxyacetic acid 79-21-0	= 1540 mg/kg (Rat)	= 1410 µL/kg (Rabbit)	= 476 mg/m^3 (Rat) 1 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Causes severe skin burns.

Serious eye damage/eye irritation Causes severe eye damage.

Carcinogenicity Group 3 IARC components are "not classifiable as human carcinogens".

Chemical name	ACGIH	IARC	NTP	OSHA
Hydrogen Peroxide 7722-84-1	A3	Group 3		

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 3 IARC components are "not classifiable as human carcinogens"

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

Oral LD50 4,115.50 mg/kg
Dermal LD50 6,792.36 mg/kg
ATEmix (inhalation-dust/mist) 1.1 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity
Toxic to aquatic life with long lasting effects.

Component Information

Chemical name	Algae/aquatic plants	Fish	Crustacea
Hydrogen Peroxide 7722-84-1	2.5: 72 h Chlorella vulgaris mg/L EC50	16.4: 96 h Pimephales promelas mg/L LC50 18 - 56: 96 h Lepomis macrochirus mg/L LC50 static 10.0 - 32.0: 96 h Oncorhynchus mykiss mg/L LC50 static	7.7: 24 h Daphnia magna mg/L EC50 18 - 32: 48 h Daphnia magna mg/L EC50 Static
Acetic acid 64-19-7		79: 96 h Pimephales promelas mg/L LC50 static 75: 96 h Lepomis macrochirus mg/L LC50 static	65: 48 h Daphnia magna mg/L EC50 Static 47: 24 h Daphnia magna mg/L EC50

Persistence/Degradability
Not determined.

Bioaccumulation
There is no data for this product.

Mobility

Chemical name	Partition coefficient
Acetic acid 64-19-7	-0.31

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

Chemical name	California Hazardous Waste Status
Hydrogen Peroxide 7722-84-1	Toxic Corrosive Ignitable Reactive
Acetic acid 64-19-7	Toxic Corrosive Ignitable
Peroxyacetic acid 79-21-0	Toxic Corrosive Ignitable Reactive

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

UN/ID No	UN3098
Proper Shipping Name	Oxidizing liquid, corrosive, n.o.s. (Hydrogen peroxide, peroxyacetic acid mixture, stabilized)
Hazard class	5.1
Subsidiary Hazard Class	8
Packing Group	II

IATA

UN number	UN3098
Proper Shipping Name	Oxidizing liquid, corrosive, n.o.s. (Hydrogen peroxide, peroxyacetic acid mixture, stabilized)
Transport hazard class(es)	5.1
Subsidiary hazard class	8
Packing Group	II

IMDG

UN number	UN3098
Proper Shipping Name	Oxidizing liquid, corrosive, n.o.s. (Hydrogen peroxide, peroxyacetic acid mixture, stabilized)
Transport hazard class(es)	5.1
Subsidiary Hazard Class	8
Packing Group	II
Marine Pollutant	This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION

International Inventories

Chemical name	TSCA	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Hydrogen Peroxide	X	X	X	X	X	X	X	X
Acetic acid	X	X	X	X	X	X	X	X
Peroxyacetic acid	X	X	X	X	X		X	X

Legend:

TSCA *- United States Toxic Substances Control Act Section 8(b) Inventory*

DSL/NDSL *- Canadian Domestic Substances List/Non-Domestic Substances List*

EINECS/ELINCS *- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

ENCS *- Japan Existing and New Chemical Substances*

IECSC *- China Inventory of Existing Chemical Substances*

KECL *- Korean Existing and Evaluated Chemical Substances*

PICCS *- Philippines Inventory of Chemicals and Chemical Substances*

AICS *- Australian Inventory of Chemical Substances*

US Federal Regulations

CERCLA

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Hydrogen Peroxide 7722-84-1		1000 lb	
Acetic acid 64-19-7	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Peroxyacetic acid 79-21-0		500 lb	

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	Yes

SARA 313

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
Peroxyacetic acid - 79-21-0	79-21-0	5-5.9	1.0

CWA (Clean Water Act)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetic acid	5000 lb			X

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Hydrogen Peroxide 7722-84-1	X	X	X
Acetic acid 64-19-7	X	X	X
Peroxyacetic acid 79-21-0	X	X	X

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	3	1	1	OX COR
HMIS	**Health Hazards**	**Flammability**	**Physical hazards**	**Personal Protection**
	3	1	1	C

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. 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. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet