SAFETY DATA SHEET
Bio-Oxygen Chem Decon Part A

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1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Bio-Oxygen Chem Decon Part A

Company Name: Artemis Bio-Solutions, LLC
14505 Torrey Chase Blvd Suite 205
Houston, TX 77014

Email address: info@artemisbiosolutions.com

Emergency Contact:

AAPCC Poison Help	+1 (800)424-9300
INFOTRAC (US Transportation)	+1 (800)535-5053
CANUTEC (Canadian Transportation	+1 (613)996-6666

Intended Use: EPA-registered antimicrobial to be used with Bio-Oxygen Chem Decon Part B

2. HAZARDS IDENTIFICATION

Serious Eye Damage/Eye Irritation, Category 1
Skin Corrosion/Irritation, Category 2

GHS Signal Word: **Danger**

GHS Hazard Phrases: H315 - Causes skin irritation.
H318 - Causes serious eye damage.

GHS Precautionary Phrases: P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

GHS Response Phrases: P302+352 - IF ON SKIN: Wash with plenty of soap and water. P362+364 - Take off contaminated clothing and wash it before reuse. P332+313 - If skin irritation occurs, get medical advice/attention.
P305+351+338 - 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.

GHS Storage and Disposal Phrases: P501 - Dispose of contents and containers in accordance with local, regional, national, and international regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
584-08-7	Potassium carbonate	5.0 -15.0 %
57-55-6	Propylene glycol	2.5 -7.5 %
68424-85-1	Alkyl(C12-C16) dimethylbenzylammonium chloride	3.2 %
34590-94-8	Dipropylene glycol methyl ether	1.0 -3.0 %
8030-78-2	Quaternary ammonium compounds, trimethyltallow alkyl, chlorides	1.0 -4.0 %
68439-46-3	Alcohol ethoxylate	< 2.5 %
67-63-0	Isopropyl alcohol	<=1.0 %

Additional Composition Information: **If Chemical Name/CAS No is "N/A" 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

Emergency and First Aid Procedures:

In Case of Inhalation: If inhaled, remove to fresh air. If breathing is difficult, give oxygen. Get medical aid.

In Case of Skin Contact: Wash off with soap and plenty of water. Remove and wash contaminated clothing before reuse. If skin irritation or rash occurs, seek medical advice/attention.

In Case of Eye Contact: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to do after 5 minutes and continue rinsing for an additional 15 minutes. Get medical attention immediately.

In Case of Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth and slowly drink several glasses of water. Get medical aid if irritation develops and persists.

Note to Physician: Treat symptomatically and supportively. Show this safety data sheet to the doctor in attendance.

5. FIRE FIGHTING MEASURES

Flash Pt: NA Method Used: Not Applicable

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: NA

Suitable Extinguishing Media: Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

Fire Fighting Instructions: Evacuate area and fight fire from a safe distance. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH approved (or equivalent), and full protective gear.

Flammable Properties and Hazards: Remove containers from fire area if you can do so without risk. Cool containers with water spray until well after the fire is out. Increases the flammability of readily oxidizable, combustible, and organic materials.

Hazardous Combustion Products: High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide, and oxides of: nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Protective Precautions, Protective Equipment and Emergency Procedures: Use proper personal protective equipment as indicated in Section 8.

Environmental Precautions: Avoid dispersal of spilled material and runoff from making contact with soil, waterways, drains and sewers. Do not allow uncontrolled discharge of product into the environment. Inform appropriate managerial or supervisory personnel of all environmental releases.

Steps To Be Taken In Case Material Is Released Or Spilled: Ensure adequate ventilation. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Prevent further leakage or spillage if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Following product recovery, flush area with water.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling: Keep away from heat, sparks and flame. Keep away from sources of ignition - No smoking. Avoid contact with eyes, skin, and clothing. Do not eat, drink, or smoke when using. Do not ingest or inhale. Wash thoroughly after handling.

Precautions To Be Taken in Storing: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from heat, sparks and flame. Store in original container. Protect containers against

damage. Keep container closed to prevent drying out. Protect from sunlight. Store at temperatures not exceeding 60°C/140°F.

Other Precautions: Handle in accordance with good industrial hygiene and safety practices. Keep out of reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Chemical Name	Jurisdiction	Recommended Exposure Limits	Notations
57-55-6	Propylene glycol	OSHA PELs	PEL: 10 mg/m3	
34590-94-8	Dipropylene glycol methyl ether	ACGIH TLV	TLV: 100 ppm STEL: 150 ppm	
		NIOSH	TWA: 600 mg/m3 (100 ppm) STEL: 900 mg/m3 (150 ppm)	Skin Absorption
		OSHA PELs	PEL: 100 ppm	
67-63-0	Isopropyl alcohol	ACGIH TLV	TLV: 200 ppm STEL: 400 ppm	
		NIOSH	TWA: 980 mg/m3 (400 ppm) STEL: 1225 mg/m3 (500 ppm)	
		OSHA PELs	PEL: 400 ppm	

Respiratory Equipment (Specify Type): Not required under normal conditions of use with adequate ventilation.

Eye Protection: Wear safety glasses with side shields. If splash is likely, goggles may be needed.

Protective Gloves: Wear appropriate protective gloves to prevent skin exposure.

Other Protective Clothing: Wear appropriate protective clothing to minimize contact with skin.

Engineering Controls (Ventilation etc.): Facilities storing or utilizing this material should be equipped with an eyewash facility, and a safety shower is recommended.

Work/Hygienic/Maintenance Practices: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Environmental Exposure Controls: Avoid discharge into drains, water courses or onto the ground. Do not allow uncontrolled discharge of product into the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States: [ ] Gas [X] Liquid [ ] Solid

Appearance and Odor: Appearance: Clear. Liquid. Colorless to pale yellow.
Odor: Slightly. Soap-like.

pH: 11 - 13

Freezing Point: 28.00 F (-2.2 C)

Boiling Point: 212.00 F (100.0 C)

Flash Pt: NA Method Used: Not Applicable

Evaporation Rate: Not available

Flammability (solid, gas): No data available.

Explosive Limits: LEL: No data. UEL: No data.

Vapor Pressure (vs. Air or mm Hg): 20 MM_HG at 20.0 C (68.0 F)

No data.

Vapor Density (vs. Air = 1): 1.08 LB/CF

Specific Gravity (Water = 1): 1 - 1.020 at 20.0 C (68.0 F)

Density: 8.4 LB/GA at 20.0 C (68.0 F)

Solubility in Water:	Complete
Saturated Vapor Concentration:	Not available
Octanol/Water Partition Coefficient:	No data.
Autoignition Pt:	NA
Decomposition Temperature:	No data.
Viscosity:	Not available
Explosive Properties:	Not explosive.
Information with regard to primary physical hazard:	

10. STABILITY AND REACTIVITY

Reactivity:	Not reactive at normal temperatures and pressures.
Stability:	Unstable [ ] Stable [X]
Conditions To Avoid - Instability:	Heat, flames and sparks. Extremes of temperature and direct sunlight. Stable under recommended handling and storage conditions.
Incompatibility - Materials To Avoid:	Heavy metal salts, strong alkalis, combustible materials.
Hazardous Decomposition or Byproducts:	High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide, toxic vapors/fumes of. amines, and oxides of: nitrogen.
Possibility of Hazardous Reactions:	Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information:	Epidemiology: No information available. Teratogenicity: No information available. Reproductive Effects: No information available. Mutagenicity: No information available. Neurotoxicity: No information available. Other Studies: CAS# 67-63-0: Acute toxicity, LD50, Oral, Rat, 5045 mg/kg. Other Studies: CAS# 68424-85-1: Acute toxicity, LD, Oral, Rat,426 mg/kg. Other Studies: CAS# 68439-46-3: Acute toxicity, LD50, Oral, Rat, 1378 mg/kg Acute toxicity, LD50, Skin, Rabbit, > 2 g/kg.
Irritation or Corrosion:	Causes skin irritation. Causes serious eye damage.
Symptoms related to Toxicological Characteristics:	Skin Contact: Prolonged and/or repeated contact may cause irritation and/or dermatitis. Inhalation: May cause respiratory tract irritation and coughing. Ingestion: May cause nausea and vomiting. Eye Contact: May cause severe irritation, tearing, and redness.
Sensitization:	Not expected.
Chronic Toxicological Effects:	May cause severe eye damage. If left untreated, may cause injury to the cornea.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. ECOLOGICAL INFORMATION

General Ecological Information:
Environmental: No information available.
Physical: No information available.
Other Studies: CAS# 67-63-0:
LC50, Water Flea (Daphnia magna), 10000 mg/L, 24H
LC50, Fathead Minnow (Pimephales promelas), 6550000 ug/L, 96H.
Other Studies: CAS# 68424-85-1:
LC50, Rainbow trout (Oncorhynchus mykiss), 1.600ppm, 96H
LC50, Striped bass (Morone saxatilis), 2820 ug/L, fry, 24H.
Other Studies: CAS# 68439-46-3:
LC50, Fathead Minnow (Pimephales promelas), 8500 ug/L, 96 H.

Results of PBT and vPvB assessment: No data available.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of contents and containers in accordance with local, regional, national, and international regulations. Avoid discharge into drains, water courses or onto the ground. The generation of waste should be avoided or minimized whenever possible.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: NOT REGULATED FOR DOMESTIC TRANSPORT.
DOT Hazard Class:
UN/NA Number:

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
584-08-7	Potassium carbonate	No	No	No
57-55-6	Propylene glycol	No	No	No
68424-85-1	Alkyl(C12-C16) dimethylbenzylammonium chloride	No	No	No
34590-94-8	Dipropylene glycol methyl ether	No	No	No
8030-78-2	Quaternary ammonium compounds, trimethyltallow alkyl, chlorides	No	No	No
68439-46-3	Alcohol ethoxylate	No	No	No
67-63-0	Isopropyl alcohol	No	No	Yes (1%)

EPA SARA Title III Section 313 Toxic Release Inventory.
This product contains a toxic chemical or chemicals subject to the reporting requirements of EPCRA Section 313 (40 CFR Section 372).

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
584-08-7	Potassium carbonate	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; FIFRA: Yes - Active - 073504: Am/CC, Inert: F/NF; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: No
57-55-6	Propylene glycol	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; FIFRA: Yes - Active - 068603: Am/CC, Inert: F/NF/Fr; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: Yes - 1; SC TAP: No; WI Air: No
68424-85-1	Alkyl(C12-C16) dimethylbenzylammonium chloride	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test; FIFRA: Yes - Active - 169135: CC, Inert: F/NF; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: No
34590-94-8	Dipropylene glycol methyl ether	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 8A PAIR; FIFRA: Yes - Active - 011508: Am, Inert: F/NF/Fr; CA PROP.65: No; CA TAC, Title 8: Title 8; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: Yes - 1; SC TAP: No; WI Air: No
8030-78-2	Quaternary ammonium compounds, trimethyltallow alkyl, chlorides	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; FIFRA: Yes - Inert: F/NF; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: No
68439-46-3	Alcohol ethoxylate	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; FIFRA: Yes - Inert: F/NF/Fr; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: No
67-63-0	Isopropyl alcohol	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; FIFRA: Yes - Active - 047501: Am/Bio/CC, Inert: F/NF/Fr, 25(b) - 950(e): F/NF; CA PROP.65: No; CA TAC, Title 8: TAC: Cat. IIb, Title 8; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: Yes - 1076; NY Part 597: No; PA HSL: Yes - E; SC TAP: No; WI Air: No

Regulatory Information:

PROPOSITION 65 (Chemicals known to the state of California to cause cancer or reproductive toxicity): This product may contain traces of: Benzyl chloride (CAS 100-44-7)

EPA Registration Number: 90920-1. This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labelling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

DANGER. Corrosive. Causes irreversible eye damage. Causes skin irritation. Harmful if inhaled. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or spray mist. Wear protective eyewear such as goggles, face shield or safety glasses. Wear chemical resistant gloves. Wash thoroughly with soap and water after handling and before eating,

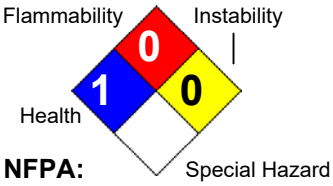
drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

16. OTHER INFORMATION

Revision Date: 07/22/2022 **Previous revision:** 07/07/2020

Hazard Rating System:

NFPA:



Additional Information: 07/22/2022 Routine review and updates to section 1,2,3,4,5,11,12,15

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