

Competitive Product Summary

BioSurf EPA #70467-3 and Monarch EPA #70467-3-89494

Optim 33 Tb has been proven to remain wet for the duration of the contact time as well as demonstrated cleaning ability and efficacy against difficult to kill pathogens such as Norovirus, while remaining essentially non-irritating to skin and eyes. AHP does not emit volatile organic compounds (VOCs) that may contribute to poor air quality.

Criteria of Ideal Disinfectant		Optim 33 TB RTU & Wipes	BioSurf/Monarch	The AHP Advantage
Key Product Characteristics	Active Ingredient	0.5% Accelerated Hydrogen Peroxide	70.5% Ethanol 0.2% Clorhexidene Gluconate	Potent disinfectants are easy to formulate, however are often quite toxic. The challenge is to remain potent and minimize toxicity. Accelerated Hydrogen Peroxide (AHP) has accomplished this like no other.
Efficacy Profile*	Bactericidal	✓ Yes (1 Minute)	√ Yes (20 secs.)	AHP has realistic contact times ¹ on a broader spectrum of organisms resulting in user compliance. High alcohol products typically evaporate in less than 30 secs ¹ meaning label claims may not be met. AHP products are also effective against relevant difficult to kill pathogens such as Norovirus.
	Enveloped Virucidal	✓ Yes (1 Minute)	X No	
	Non-Enveloped Virucidal	✓ Yes (1 Minute)	✓ Yes (1 Minute) (Canine Parvovirus ONLY)	
	Tuberculocidal	✓ Yes (5 Minutes)	✓ Yes (1 Minute)	
	Fungicidal	Yes (10 Minutes)	✓ Yes (10 secs.)	
	Broad-Spectrum Non-Food Contact Sanitizing	✓ Yes (30 Seconds)	X No	¹ Omidbakhsh, N. (2010) Theoretical and Experimental Aspects of Microbicidal Activities of Hard Surface Disinfectants: Are Their Label Claims Based on Testing Under Field Conditions?, J AOAC International, Vol 93 No 6, p. 1-8.
Cleaning Profile	One-Step Cleaner Disinfectant	✓ Yes	✓ Yes	AHP has proven cleaning ² efficiency resulting in added confidence that disinfection can occur. ² Rochon, M., Sullivan, N. (1999) Products based on accelerated and stabilized hydrogen peroxide: Evidence for Cleaning and Sanitizing Efficiency CJIC p. 51-55.



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Toxicity Profile*	HMIS Rating**	0/0/0	1/3/0	AHP is Designed to be easier on employees ³ . AHP Products are VOC free, essentially non-irritating to skin and eyes, do not require the use of PPE, and have the lowest EPA toxicity rating possible (Category IV) in all 6 studies at in use dilutions.
	Essentially Non- Irritating to Eye	✓ Yes	X No (Mild Reversible Irritation; Eye protection must be worn)	
	Essentially Non- Irritating to Skin	✓ Yes	✓ Yes	
	Essentially Non- Irritating to Respiratory Tract	✓ Yes	X No (Mild Reversible Irritation)	³ Omidbakhsh, N., Sattar, S.(2006) Broad-spectrum microbicidal activity, toxicologic assessment, and materials compatibility of a new generation of accelerated hydrogen peroxide-based environmental surface disinfectant,
	VOC Free	✓ Yes	X No	AJIC International, Vol 34 No 5, p. 251-257.
	Sustainable	✓ Yes	X No	AHP reduces environmental impact whenever possible. The active ingredient, Hydrogen Peroxide, breaks down into water and oxygen leaving no active residual.

^{*}Based on claims and contact times found on the EPA Stamped Master Label dated September 7, 2010 and MSDS' dated January 1, 2013.

The Health Hazard conveys the health hazards of the material:

- Life-threatening, major or permanent damage may result from single or repeated overexposures
- Major injury likely unless prompt action is taken and medical treatment is given.
- 2. Temporary or minor injury may occur.
- 1. Irritation or minor reversible injury possible.
- 0. No significant risk to health

Flammability Hazards are defined according to OSHA standards:

- 4. Flammable gases, or very volatile flammable liquids.
- Materials capable of ignition under almost all normal temperature conditions.
- Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur.
- 1. Materials that must be preheated before ignition will occur.
- 0. Materials that will not burn

Reactivity Hazards are assessed using the OSHA criterion of physical hazard.

- 4. Severe Hazard. Materials that are reactive at normal temperature and pressure
- 3. Serious Hazard. Materials that may form explosive mixtures
- Moderate Hazard. Unstable Materials that can undergo violent chemical changes.
- 1. Slight Hazard. Become unstable at high temperatures and pressures.
- Minimal Hazard. Non-explosives.

^{**}HMIS is a color and number system used to signal degree of health hazard, flammability hazard and reactivity hazard.