AQUAOX Disinfectant

Virucidal Efficacy - Test Summary

Human Coronavirus, strain 229E, ATCC VR-740

GENERAL STUDY INFORMATION

Study Title:	Evaluation of Antiviral Properties of a Product Using a Virucidal Suspension Assay
Project Number:	A15626
Protocol Number:	INI01091313.COR
Testing Facility:	ATS Labs, 1285 Corporate Center Drive, Suite 110, Eagan, MN 55121

TEST SUBSTANCE IDENTITY

Test Substance:	Aquaox Hypochlorous Acid
Batch:	AX-13196-0210

SUMMERY OF RESULTS

Test Substance:	Aquaox Hypochlorous Acid Batch # AX-13196-0210
Dilution Tested:	Ready to use
	A near neutral Hypochlorous Acid solution with 225ppm Free Available Chlorine produced by Aquaox.
Virus:	Human Coronavirus, strain 229E, ATCC VR-740
Exposure Time:	30 seconds
Exposure Temperature:	Room temperature (20.0°C)
Organic Soil Load:	1% fetal bovine serum
Efficacy Result:	Under these test conditions, Aquaox (Batch # AX-13196-0210) demonstrated a 99.994% reduction in the stock virus titer as compared to the titer of the corresponding virus control. The log reduction in viral titer was 4.25 log10

STUDY CONCLUSION

Under the conditions of this investigation, in the presence of a 1% fetal bovine serum organic soil load, Aquaox (Batch # AX-13196-0210), ready to use, demonstrated a 99.994% reduction in viral titer following a 30 second exposure time to Human Coronavirus as compared to the titer of the corresponding virus control. The log reduction in viral titer was 4.25LOG10.

Respiratory syncytial virus, Strain Long, ATCC VR-26

GENERAL STUDY lNFORMATION

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Testing Facility:	ATS Labs, 1285 Corporate Center Drive, Suite 110, Eagan, MN 55121

TEST SUBSTANCE IDENTITY

Test Substance:	Aquaox Hypochlorous Acid Batch # AX-13196-0210
Dilution Tested:	Ready to use (RTU)
	A near neutral Hypochlorous Acid solution with 225ppm Free Available Chlorine produced by Aquaox.
Virus:	Respiratory syncytial virus, Strain Long, ATCC VR-26

SUMMERY OF RESULTS

Exposure Time:	30 seconds
Exposure Temperature:	Room temperature (20.0°C)
Organic Soil Load:	1% fetal bovine serum
Efficacy Result:	Under these test conditions, Aquaox (Batch # AX-13196-0210) demonstrated a 99.994% reduction in the stock virus titer as compared to the titer of the corresponding virus control. The log reduction in viral titer was 4.25 log10

STUDY CONCLUSION

Under the conditions of this investigation, in the presence of a 1% fetal bovine serum organic soil load, Aquaox (Batch # AX-13196-0210), ready to use, demonstrated a 99.994% reduction in viral titer following a 30 second exposure time to Respiratory syncytial virus as compared to the titer of the corresponding virus control. The log reduction in viral titer was 4.25LOG10.

Adenovirus type 2, Strain Adenoid 6, ATCC VR-846

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Testing Facility:	ATS Labs, 1285 Corporate Center Drive, Suite 110, Eagan, MN 55121

TEST SUBSTANCE IDENTITY

Test Substance:	Aquaox Hypochlorous Acid Batch # AX-13196-0210
Dilution Tested:	Ready to use (RTU) A near neutral Hypochlorous Acid solution with 225ppm Free Available Chlorine produced by Aquaox.
Virus:	Adenovirus type 2, Strain Adenoid 6, ATCC VR-846

SUMMERY OF RESULTS

Exposure Time:	30 seconds
Exposure Temperature:	Room temperature (20.0°C)
Organic Soil Load:	1% fetal bovine serum
Efficacy Result:	Under these test conditions, Aquaox (Batch # AX-13196-0210) demonstrated a 99.9997% reduction in the stock virus titer as compared to the titer of the virus control. The log reduction in viral titer was 6.50 log10

STUDY CONCLUSION

Under the conditions of this investigation and in the presence of a 1% fetal bovine serum organic soil load, Aquaox (Batch # AX-13196-0210), ready to use, demonstrated a 99.9997% reduction in viral titer following a 30 second exposure time to Adenovirus type 2 at room temperature (20.0°C), as compared to the titer of the virus control. The log reduction in viral titer was 6.50LOG10

Human Immunodeficiency Virus type 1, Strain HTLV-lIIe

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Testing Facility:	ATS Labs, 1285 Corporate Center Drive, Suite 110, Eagan, MN 55121

TEST SUBSTANCE IDENTITY

Test Substance:	Aquaox Hypochlorous Acid Batch # AX-13196-0210
Dilution Tested:	Ready to use (RTU)
	A near neutral Hypochlorous Acid solution with 225ppm Free Available Chlorine produced by Aquaox.
Virus:	A Human Immunodeficiency Virus type 1, Strain HTLV-lIIe

SUMMERY OF RESULTS

Exposure Time:	30 seconds
Exposure Temperature:	Room temperature (20.0°C)
Organic Soil Load:	1% fetal bovine serum
Efficacy Result:	Under these test conditions, Aquaox (Batch # AX-13196-0210) demonstrated a 99.999% reduction in the stock virus titer as compared to the titer of the virus control. The log reduction in viral titer was ≥5 log10

STUDY CONCLUSION

Under the conditions of this investigation and in the presence of a 1% fetal bovine serum organic soil load, Aquaox (Batch # AX-13196-0210), ready to use, demonstrated a 99.999% reduction in viral titer following a 30 second exposure time to Human Immunodeficiency Virus type 1, at room temperature (20.0°C), as compared to the titer of the virus control. The log reduction in viral titer was ≥5LOG10

Duck Hepatitis B virus as a surrogate virus for human Hepatitis B virus

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Testing Facility:	ATS Labs, 1285 Corporate Center Drive, Suite 110, Eagan, MN 55121

TEST SUBSTANCE IDENTITY

Test Substance:	Aquaox Hypochlorous Acid Batch # AX-13196-0210
Dilution Tested:	Ready to use (RTU) A near neutral Hypochlorous Acid solution with 225ppm Free Available Chlorine produced by Aquaox.
Virus:	Duck Hepatitis B virus as a surrogate virus for human Hepatitis B virus

SUMMERY OF RESULTS

Exposure Time:	30 seconds
Exposure Temperature:	Room temperature (20.0°C)
Organic Soil Load:	1% fetal bovine serum
Efficacy Result:	Under these test conditions, Aquaox (Batch # AX-13196-0210) demonstrated a 99.9994% reduction in the stock virus titer as compared to the titer of the corresponding virus control. The log reduction in viral titer was 5.25 log10.

STUDY CONCLUSION

Under the conditions of this investigation, Aquaox (Batch # AX-13196-0210), ready to use, demonstrated a 99.9994% reduction in viral titer following a 30 second exposure time to duck Hepatitis B virus as compared to the titer of the corresponding virus control. The log reduction in viral titer was 5.25 log10.

Poliovirus type 1, strain Chat, ATCC VR-1562

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Testing Facility:	ATS Labs, 1285 Corporate Center Drive, Suite 110, Eagan, MN 55121

TEST SUBSTANCE IDENTITY

Test Substance:	Aquaox Hypochlorous Acid Batch # AX-13196-0210
Dilution Tested:	Ready to use (RTU)
	A near neutral Hypochlorous Acid solution with 225ppm Free Available Chlorine produced by Aquaox.
Virus:	Poliovirus type 1, strain Chat, ATCC VR-1562

SUMMERY OF RESULTS

Exposure Time:	30 seconds
Exposure Temperature:	Room temperature (20.0°C)
Organic Soil Load:	1% fetal bovine serum
Efficacy Result:	Under these test conditions, Aquaox (Batch # AX-13196-0210) demonstrated a 99.999% reduction in the stock virus titer as compared to the titer of the virus control. The log reduction in viral titer was ≥5 log10

STUDY CONCLUSION

Under the conditions of this investigation and in the presence of a 1% fetal bovine serum organic soil load, Aquaox (Batch # AX-13196-0210), ready to use, demonstrated a 99.9998% reduction in viral titer following a 30 second exposure time to Poliovirus type 1, at room temperature (20.0°C), as compared to the titer of the virus control and a 99.9994% . reduction in viral titer following a 60 second exposure time to Poliovirus type 1, at room temperature (20.0°C), as compared to the titer of the virus control. The log reduction in viral titer was ≥5.75LOG10 and 5.25LOG10 respectively.

Herpes simplex virus type 2, strain G, ATCC VR-734

GENERAL STUDY lNFORMATION

Study Title:	Evaluation of Antiviral Properties of a Product Using a Virucidal Suspension Assay
Project Number:	A15626
Protocol Number:	INI01091313.COR
Testing Facility:	ATS Labs, 1285 Corporate Center Drive, Suite 110, Eagan, MN 55121

TEST SUBSTANCE IDENTITY

Test Substance:	Aquaox Hypochlorous Acid Batch # AX-13196-0210
Dilution Tested:	Ready to use (RTU)
	A near neutral Hypochlorous Acid solution with 225ppm Free Available Chlorine produced by Aquaox.
Virus:	Herpes simplex virus type 2, strain G, ATCC VR-734

SUMMERY OF RESULTS

Exposure Time:	30 seconds
Exposure Temperature:	Room temperature (20.0°C)
Organic Soil Load:	1% fetal bovine serum
Efficacy Result:	Under these test conditions, Aquaox (Batch # AX-13196-0210) demonstrated a 99.994% reduction in the stock virus titer as compared to the titer of the corresponding virus control. The log reduction in viral titer was 4.25 log10.

STUDY CONCLUSION

Under the conditions of this investigation, in the presence of a 1% fetal bovine serum organic soil load, Aquaox (Batch # AX-13196-0210), ready to use, demonstrated a 99.994% reduction in viral titer following a 30 second exposure time to Herpes simplex virus type 2 as compared to the titer of the corresponding virus control. The log reduction in viral titer was 4.25LOG10

Herpes simplex virus type 2, strain G, ATCC VR-734

GENERAL STUDY lNFORMATION

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TEST SUBSTANCE IDENTITY

Test Substance:	Aquaox Hypochlorous Acid Batch # AX-13196-0210
Dilution Tested:	Ready to use (RTU)
	A near neutral Hypochlorous Acid solution with 225ppm Free Available Chlorine produced by Aquaox.
Virus:	Herpes simplex virus type 2, strain G, ATCC VR-734

SUMMERY OF RESULTS

Exposure Time:	30 seconds
Exposure Temperature:	Room temperature (20.0°C)
Organic Soil Load:	1% fetal bovine serum
Efficacy Result:	Under these test conditions, Aquaox (Batch # AX-13196-0210) demonstrated a 99.994% reduction in the stock virus titer as compared to the titer of the corresponding virus control. The log reduction in viral titer was 4.25 log10.

STUDY CONCLUSION

Under the conditions of this investigation, in the presence of a 1% fetal bovine serum organic soil load, Aquaox (Batch # AX-13196-0210), ready to use, demonstrated a 99.994% reduction in viral titer following a 30 second exposure time to Herpes simplex virus type 2 as compared to the titer of the corresponding virus control. The log reduction in viral titer was 4.25LOG10

Bovine viral diarrhea virus as a surrogate virus for Hepatitis C virus, strain Oregon C24v, genotype 1, cytopathic

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TEST SUBSTANCE IDENTITY

Test Substance:	Aquaox Hypochlorous Acid Batch # AX-13196-0210
Dilution Tested:	Ready to use (RTU)
	A near neutral Hypochlorous Acid solution with 225ppm Free Available Chlorine produced by Aquaox.
Virus:	Bovine viral diarrhea virus as a surrogate virus for Hepatitis C virus, strain Oregon C24v, genotype 1, cytopathic

SUMMERY OF RESULTS

Exposure Time:	30 seconds
Exposure Temperature:	Room temperature (20.0°C)
Organic Soil Load:	1% fetal bovine serum
Efficacy Result:	Under these test conditions, Aquaox (Batch # AX-13196-0210) demonstrated a 99.97% reduction in the stock virus titer as compared to the titer of the corresponding virus control. The log reduction in viral titer was 3.50log10.

STUDY CONCLUSION

Under the conditions of this investigation, in the presence of a 1% fetal bovine serum organic soil load, Aquax (Batch # AX-13196-0210), ready to use, demonstrated a 99.97% reduction in viral titer following a 30 second exposure time to Bovine viral diarrhea virus as compared to the titer of the corresponding virus control. The log reduction in viral titer was 3.50LOG10.