Table 50 presents Cytototoxicity Test for eight product concentrations performed in parallel with Pre-Treatment test using MDCK, MRC-5, and Vero cell cultures.

TABLE 50

Test Product: Methylsulfonylmethane, lot# 0902951

Cell Culture Designation	Test Product Cytotoxicity							
	7%	6%	5%	4%	3%	2%	1%	0.5%
Vero	00	00	00	00	00	00	00	00
MDCK	++	++	00	00	00	00	00	00
MRC-5	++	00	00	00	00	00	00	00

\+ = CPE Present
0 = CPE not detected

Tables 2 through 9 present the Virus Control infectivity ($TCID_{50}$), the average infectivity ($TCID_{50}$), and the log_{10} and percent reductions observed in Pre-treatment test of the Test Product, Methylsulfonylmethane (Lot Number 0902951), and Swine-like H1N1 Influenza A virus strain A/California/04/2009 (CDC ID #2009712047).

TABLE 51 Reduction of Infectivity

Test Product: Methylsulfonylmethane, 7% (lot# 0902951)
Virus: Swine-like Influenza A H1N1 strain A/California/04/2009 CDC ID # 2009712047
Host Cell Line: MDCK Host Cell Line ATCC # CCL-34

Dilutions ($-log_{10}$)	Virus Control			Test Product			Cell Control
	Rep. 1	Rep. 2	Rep. 3	Rep. 1	Rep. 2	Rep. 3	
							0000
-2	NT	NT	NT	++++	++++	++++	
-3	++++	++++	++++	++++	++++	++++	
-4	++++	++++	++++	00+0	0000	0+00	
-5	00+0	+000	+0+0	0000	0000	0000	
-6	0000	0000	0000	0000	0000	0000	
-7	0000	0000	0000	0000	0000	0000	
$TCID_{50}$	4.75log_{10}	4.75 log_{10}	5.00 log_{10}	3.75 log_{10}	3.50log_{10}	3.75 log_{10}	
Average $TCID_{50}$	4.83 log_{10}			3.67 log_{10}			
Log Reduction*				1.08 log_{10}	1.33 log_{10}	1.08 log_{10}	
Average Log Reduction				1.16 log_{10}			
Percent Reduction				91.68%	95.32%	91.68%	
Average Percent Reduction**				93.08%			

\+ = CPE Present

CLAIMS

1. A method of enhancing fermentation efficiency of a microorganism for the production of beer, cider, wine, a biofuel, bread, dairy product or any combination thereof, the method comprising:

contacting medium containing a microorganism capable of fermentation with methylsulfonylmethane (MSM), wherein the MSM is provided at a concentration of about 0.02% to about 5% by weight of the medium or at a concentration of about 0.5% to about 5% by weight of the moisture content of the medium, wherein the MSM increases the fermentation efficiency of the microorganism for the production of beer, cider, wine, a biofuel, bread, dairy product or any combination thereof as compared to the fermentation efficiency of the microorganism for the production of beer, cider, wine, a biofuel, bread, dairy product or any combination thereof in the absence of added MSM.

2. The method of claim 1, wherein enhancing fermentation efficiency comprises an at least 50% increase in alcohol, carbon dioxide or acid production in the presence of added MSM by the microorganism as compared to alcohol or acid production in the absence of added MSM.

3. The method of claim 2, wherein enhancing fermentation efficiency comprises an at least 50% increase in production of ethanol, methanol or a combination of thereof as compared to production of ethanol, methanol or a combination of thereof in the absence of added MSM.

4. The method of any one of claims 1-3, wherein the microorganism is yeast and the method of enhancing fermentation is for the production of beer.

5. The method of claim any one of claims 1-3, wherein the microorganism is algae and the method of enhancing fermentation is for the production of biofuel.

6. The method of claim 2, wherein enhancing fermentation efficiency comprises an at least 50% increase in carbon dioxide production in the presence of added MSM by the microorganism as compared to carbon dioxide production in the absence of added MSM, the microorganism is yeast and the method of enhancing fermentation is for the production of bread.

7. The method of claim 2, wherein enhancing fermentation efficiency comprises an at least 50% increase in lactic acid production in the presence of added MSM by the microorganism as compared to lactic acid production in the absence of added MSM and the method of enhancing fermentation is for the production of a dairy product.

8. The method of any one of claims 1-7, wherein the concentration of MSM is about0.5%.

9. The method of any one of claims 1-8, wherein the medium comprises a sodium chloride concentration of less than 5% of total moisture content of the medium.

10. A method for enhancing growth of a microorganism in a diagnostic test sample, the method comprising:

contacting the diagnostic test sample comprising one or more microorganisms with a medium capable of supporting growth of the one or more microorganisms;

providing methylsulfonylmethane (MSM) to the medium at a concentration of about 0.02% to about 5% by weight of the medium or by weight of a moisture content of the medium, thereby enhancing the growth of the one or more microorganisms in the diagnostic test sample as compared to growth of the one or more microorganisms in the absence of added MSM.

11. A method of inhibiting microbial activity, the method comprising:

selecting a medium that is susceptible to H1N1 influenza contamination; and

contacting the medium with methylsulfonylmethane (MSM) at a concentration of about 6% to about 16% of weight by volume, thereby inhibiting H1N1 influenza microbial activity by reducing the growth rate of H1N1 present on or in the medium, or later coming into contact with the medium.

12. The method of claim 11, wherein the medium comprises a bodily fluid, a bodily tissue, or a surface.

13. The method of claim 11 or 12, wherein contacting the medium comprises spraying or wiping the medium susceptible to microbial contamination with MSM.

14. The method of claim 13, wherein the surface is a household surface, bedding, coverings, industrial equipment or surface, blood, skin or a combination thereof.

15. The method of any one of claims 11-14, wherein MSM is provided in a composition, wherein said composition is free of bleach or free alcohol or consists essentially of water.

16. The method of any one of claims 11-15, further comprising sterilizing the medium after adding said MSM.

17. The method of any one of claims 11-16, wherein said medium is free from preservatives.

18. The method of any one of claim 11-17, wherein the MSM inhibits the microbial activity by reducing growth rate of H1N1 influenza by at least 50% as compared to the growth rate of H1N1 influenza in the absence of added MSM.

Table 50 presents Cytototoxicity Test for eight product concentrations performed in parallel with Pre-Treatment test using MDCK, MRC-5, and Vero cell cultures.

TABLE 50

Test Product: Methylsulfonylmethane, lot# 0902951

Cell Culture Designation	Test Product Cytotoxicity							
	7%	6%	5%	4%	3%	2%	1%	0.5%
Vero	00	00	00	00	00	00	00	00
MDCK	++	++	00	00	00	00	00	00
MRC-5	++	00	00	00	00	00	00	00

\+ = CPE Present
0 = CPE not detected

Tables 51 through 58 present the Virus Control infectivity ($TCID_{50}$), the average infectivity ($TCID_{50}$), and the log_{10} and percent reductions observed in Pre-treatment test of the Test Product, Methylsulfonylmethane (Lot Number 0902951), and Swine-like H1N1 Influenza A virus strain A/California/04/2009 (CDC ID #2009712047).

TABLE 51 Reduction of Infectivity

Test Product: Methylsulfonylmethane, 7% (lot# 0902951)
Virus: Swine-like Influenza A H1N1 strain A/California/04/2009 CDC ID # 2009712047
Host Cell Line: MDCK Host Cell Line ATCC # CCL-34

Dilutions ($-log_{10}$)	Virus Control			Test Product			Cell Control
	Rep. 1	Rep. 2	Rep. 3	Rep. 1	Rep. 2	Rep. 3	
							0000
-2	NT	NT	NT	++++	++++	++++	
-3	++++	++++	++++	++++	++++	++++	
-4	++++	++++	++++	00+0	0000	0+00	
-5	00+0	+000	+0+0	0000	0000	0000	
-6	0000	0000	0000	0000	0000	0000	
-7	0000	0000	0000	0000	0000	0000	
$TCID_{50}$	4.75log_{10}	4.75 log_{10}	5.00 log_{10}	3.75 log_{10}	3.50log_{10}	3.75 log_{10}	
Average $TCID_{50}$	4.83 log_{10}			3.67 log_{10}			
Log Reduction*				1.08 log_{10}	1.33 log_{10}	1.08 log_{10}	
Average Log Reduction				1.16 log_{10}			
Percent Reduction				91.68%	95.32%	91.68%	
Average Percent Reduction**				93.08%			

\+ = CPE Present

CLAIMS

1. A method of enhancing fermentation efficiency of a microorganism for the production of beer, cider, wine, a biofuel, bread, dairy product or any combination thereof, the method comprising:

contacting medium containing a microorganism capable of fermentation with methylsulfonylmethane (MSM), wherein the MSM is provided at a concentration of 0.02% to 0.5% by weight of the fermentation medium, wherein the MSM increases the fermentation efficiency of the microorganism for the production of beer, cider, wine, a biofuel, bread, dairy product or any combination thereof as compared to the fermentation efficiency of the microorganism for the production of beer, cider, wine, a biofuel, bread, dairy product or any combination thereof in the absence of added MSM.

2. The method of claim 1, wherein enhancing fermentation efficiency comprises an at least 50% increase in alcohol, carbon dioxide or acid production in the presence of added MSM by the microorganism as compared to alcohol or acid production in the absence of added MSM.

3. The method of claim 2, wherein enhancing fermentation efficiency comprises an at least 50% increase in production of ethanol, methanol or a combination of thereof as compared to production of ethanol, methanol or a combination of thereof in the absence of added MSM.

4. The method of any one of claims 1-3, wherein the microorganism is yeast and the method of enhancing fermentation is for the production of beer.

5. The method of claim any one of claims 1-3, wherein the microorganism is algae and the method of enhancing fermentation is for the production of biofuel.

6. The method of claim 2, wherein enhancing fermentation efficiency comprises an at least 50% increase in carbon dioxide production in the presence of added MSM by the

microorganism as compared to carbon dioxide production in the absence of added MSM, the microorganism is yeast and the method of enhancing fermentation is for the production of bread.

7. The method of claim 2, wherein enhancing fermentation efficiency comprises an at least 50% increase in lactic acid production in the presence of added MSM by the microorganism as compared to lactic acid production in the absence of added MSM and the method of enhancing fermentation is for the production of a dairy product.

8. The method of any one of claims 1-7, wherein the concentration of MSM is 0.5%.

9. The method of any one of claims 1-8, wherein the medium comprises a sodium chloride concentration of less than 5% of total moisture content of the medium.

10. A method for enhancing growth of a microorganism in a diagnostic test sample, the method comprising:

contacting the diagnostic test sample comprising one or more microorganisms with a medium capable of supporting growth of the one or more microorganisms;

providing methylsulfonylmethane (MSM) to the medium at a concentration of 0.02% to 0.5% by weight of the medium, thereby enhancing the growth of the one or more microorganisms in the diagnostic test sample as compared to growth of the one or more microorganisms in the absence of added MSM.