EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800

Attn.: Richard
First Fishery
9484 Chesapeake Drive
Unit #802
San Diego, CA 92123

Phone: 858-278-5028 Fax: 858-279-7040

EMSL Case No.: 381309503

Sample(s) Received: 11/8/2013

Date of Analysis: 11/14/2013
Date Printed: 11/15/2013
Reported By: Garrett A. Ray
Email: Richard@seagateproducts.com

- Laboratory Report -

Gamma Spectroscopy

Project: Seagate Seaweed Lot # 013

Procurement of Samples and Analytical Overview:

The sample that was submitted for Gamma Spectroscopy analysis was received on November 8, 2013. The seaweed powder sample was transferred into an appropriately labeled 500mL Marinelli beaker and counted for 8 hours. The sample was counted using a high purity Germanium gamma detector and was then analyzed using the EMSL "Food" Library to look for specific isotopes.

The FDA has stated that, "Iodine-131 (I-131), Cesium-134 (Cs-134) and Cesium-137 (Cs-137) are the radionuclides of greatest concern to the food supply following a nuclear power plant accident. Along with those three radionuclides, FDA also monitors others as needed – among them, Strontium-90, Ruthenium-103 (Ru-103) and Ruthenium-106 (Ru-106)." This FDA webpage also contains a link to a page which describes the "interventional limits" for radioisotopes in foods. **-CPG Sec. 560.750 Radionuclides in Imported Foods - Levels of Concern, http://www.fda.gov/ICECI/ComplianceManuals/CompliancePolicyGuidanceManual/UCM074576**

This webpage includes the following information on limits, and what constitutes contamination:

I. Derived Intervention Levels (DILs) for Each Radionuclide Group for Food in Domestic Commerce and Food Offered for Import[a,b]

Radionuclide Group	DIL (Bq/kg)
Iodine-131	170
Cesium-134 + Cesium-137	1200
Ruthenium-103 + Ruthenium-106[c]	$(C_3 / 6800) + (C_6 / 450) < 1$

[a]The DIL for each radionuclide group is applied independently. Each DIL applies to the sum of the concentrations of the radionuclides in the group at the time of measurement.

[b]Applicable to foods as prepared for consumption. For dried or concentrated products such as powdered milk or concentrated juices, adjust by a factor appropriate to reconstitution, and assume the reconstitution water is not

EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800

Attn.: Richard
First Fishery
9484 Chesapeake Drive
Unit #802
San Diego, CA 92123

Phone: 858-278-5028 Fax: 858-279-7040

EMSL Case No.: 381309503
Sample(s) Received: 11/8/2013
Date of Analysis: 11/14/2013
Date Printed: 11/15/2013
Reported By: Garrett A. Ray
Email: Richard@seagateproducts.com

contaminated. For spices, which are consumed in very small quantities, use a dilution factor of 10.

[c]Due to the large differences in DILs for Ruthenium-103 and Ruthenium-106, the individual concentrations of Ruthenium-103 and Ruthenium-106 are divided by their respective DILs and then summed. The DIL for the Ruthenium group is set at less than one. C3 and C6 are the concentrations, at the time of measurement, for Ruthenium-103 and Ruthenium-106, respectively.

Please see the results below for the sample submitted for analysis.

Analyzed by: Garrett A. Ray 11/14/2013
Date

Reviewed/Approved: Garrett A. Ray 11/15/2013
Garrett A. Ray
Radiological Lab Manager
Date

EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800

Attn.: Richard
First Fishery
9484 Chesapeake Drive
Unit #802
San Diego, CA 92123

Phone: 858-278-5028 Fax: 858-279-7040

EMSL Case No.: 381309503

Sample(s) Received: 11/8/2013

Date of Analysis: 11/14/2013
Date Printed: 11/15/2013
Reported By: Garrett A. Ray
Email: Richard@seagateproducts.com

Results:

381309503 Seaweed Powder

Analyte	*Activity, pCi/g*	*MDA, pCi/g*
Be-7	<MDA	0.069
Cr-51	<MDA	0.004
Mn-54	<MDA	0.008
Fe-59	<MDA	0.030
Co-57	<MDA	0.007
Co-58	<MDA	0.014
Co-60	<MDA	0.019
Zn-65	<MDA	0.046
Zr-95	<MDA	0.029
Nb-95	<MDA	0.015
Ru-103	<MDA	0.010
Rh-106	<MDA	0.122
Ag-110m	<MDA	0.006
Sb-124	<MDA	0.003
Sb-125	<MDA	0.023
I-131	<MDA	0.005
Cs-134	<MDA	0.008
Cs-137	<MDA	0.011
Ba-140	<MDA	0.040
La-140	<MDA	0.006
Ce-141	<MDA	0.011
Ce-144	<MDA	0.053

EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 858-4800

Attn.: Richard
First Fishery
9484 Chesapeake Drive
Unit #802
San Diego, CA 92123

EMSL Case No.: 381309503
Sample(s) Received: 11/8/2013
Date of Analysis: 11/14/2013
Date Printed: 11/15/2013
Reported By: Garrett A. Ray

Phone: 858-278-5028 Fax: 858-279-7040 Email: Richard@seagateproducts.com

Descriptions & Definitions:

MDA – Is the minimum amount of detectable activity associated for a particular measurement.

<MDA – Refers to the fact that the amount of activity was lower than what the instrument could quantify for a particular measurement.

Limit of Quantitation (LOQ): The minimum concentration of an analyte that can be measured within specified limits of precision and accuracy during routine laboratory operating conditions

Important Terms, Conditions, and Limitations:

Sample Retention: Samples analyzed by EMSL will be retained for 60 days after analysis date. Storage beyond this period is available for a fee with written request prior to the initial 30 day period. Samples containing hazardous/toxic substances which require special handling may be returned to the client immediately. EMSL reserves the right to charge a sample disposal or return shipping fee.

Change Orders and Cancellation: All changes in the scope of work or turnaround time requested by the client after sample acceptance must be made in writing and confirmed in writing by EMSL. If requested changes result in a change in cost the client must accept payment responsibility. In the event work is cancelled by a client, EMSL will complete work in progress and invoice for work completed to the point of cancellation notice. EMSL is not responsible for holding times that are exceeded due to such changes.

Warranty: EMSL warrants to its clients that all services provided hereunder shall be performed in accordance with established and recognized analytical testing procedures and with reasonable care in accordance with applicable federal, state and local laws. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied. EMSL disclaims any other warranties, express or implied, including a warranty of fitness for particular purpose and warranty of merchantability.

Limits of Liability: In no event shall EMSL be liable for indirect, special, consequential, or incidental damages, including, but not limited to, damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of EMSL and whether EMSL has been informed of the possibility of such damages, arising out of or in connection with EMSL's services thereunder or the delivery, use, reliance upon or interpretation of test results by client or any third party. We accept no legal responsibility for the purposes for which the client uses the test results. EMSL will not be held responsible for the improper selection of sampling devices even if we supply the device to the user. The user of the sampling device has the sole responsibility to select the proper sampler and sampling conditions to insure that a valid sample is taken for analysis. Any resampling performed will be at the sole discretion of EMSL, the cost of which shall be limited to the reasonable value of the original sample delivery group (SDG) samples. In no event shall EMSL be liable to a client or any third party, whether based upon theories of tort, contract or any other legal or equitable theory, in excess of the amount paid to EMSL by client thereunder.

The data and other information contained in this report, as well as any accompanying documents, represent only the samples analyzed. They are reported upon the condition that they are not to be reproduced wholly or in part for advertising or other purposes without the written approval from the laboratory.