

EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077

Phone: (856) 858-4800

Attn.: LRS Foods, LLC

Sheet Seaweed Report

EMSL Case No.: 381505327

Sample(s) Received: 7/1/2015

Date of Analysis: 7/22/2015 Date Printed: 7/22/2015

Reported By: Laura A. Freeman

Email:

Phone: Fax:

- Laboratory Report -Gamma Spectroscopy

Project: Nori Dried Seaweed

Procurement of Samples and Analytical Overview:

The Nori Dried Seaweed sample that was submitted for Gamma Spectroscopy analysis was received on July 1, 2015. The sample was chopped into small pieces and transferred into an appropriately labeled 500mL Marinelli beaker for counting. The sample was counted for 8 hours using a high purity Germanium gamma detector. The sample was then analyzed using the EMSL "P" Library to look for specific isotopes. This library mainly focuses on Naturally Occurring Radioactive Material (NORM) along with the addition of Cesium, Iodine, Zirconium, and Cobalt.

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

Laboratory Manager

Analyzed by:	Lamac Frumar	7/22/2015
	Laura A. Freeman	Date
Reviewed/Approved:	Laura Frumai	7/22/2015
	Laura A. Freeman	Date



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Results:

381505327 - Nori Dried Seaweed			
		Detection Limit,	
Element	Activity, pCi/g	pCi/g	
TI-208	<mda< td=""><td>0.038</td></mda<>	0.038	
Pb-212	<mda< td=""><td>0.058</td></mda<>	0.058	
Pb-214	<mda< td=""><td>0.077</td></mda<>	0.077	
Bi-212	<mda< td=""><td>0.186</td></mda<>	0.186	
Bi-214	0.127	0.081	
Rn-219	<mda< td=""><td>0.097</td></mda<>	0.097	
U-235	<mda< td=""><td>0.045</td></mda<>	0.045	
Ra-223	<mda< td=""><td>0.142</td></mda<>	0.142	
Ra-224	<mda< td=""><td>0.504</td></mda<>	0.504	
Ra-226	<mda< td=""><td>0.587</td></mda<>	0.587	
Ac-228	<mda< td=""><td>0.164</td></mda<>	0.164	
Th-227	<mda< td=""><td>0.088</td></mda<>	0.088	
Th-228	<mda< td=""><td>2.235</td></mda<>	2.235	
Th-230	<mda< td=""><td>5.106</td></mda<>	5.106	
Th-231	<mda< td=""><td>0.349</td></mda<>	0.349	
Th-234	<mda< td=""><td>1.358</td></mda<>	1.358	
Pa-231	<mda< td=""><td>0.513</td></mda<>	0.513	
Pa-234	<mda< td=""><td>0.099</td></mda<>	0.099	
K-40	<mda< td=""><td>2.422</td></mda<>	2.422	
Cs-134	<mda< td=""><td>0.033</td></mda<>	0.033	
Cs-137	<mda< td=""><td>0.041</td></mda<>	0.041	
I-131	<mda< td=""><td>0.021</td></mda<>	0.021	
Zr-95	<mda< td=""><td>0.026</td></mda<>	0.026	
Co-60	<mda< td=""><td>0.015</td></mda<>	0.015	

Conclusion:

Based on the data above, the Nori Dried Seaweed Sheets received showed no significant gamma radiation for the isotopes listed. The activity detected is from naturally occurring radioactive materials.



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Phone: Fax: Email:

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.

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.

<u>Change Orders and Cancellation:</u> 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.

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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.

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