



## Scientific Facts of BioNeat NTS™ Products

As requested by BIO-NEAT INC, I would like to interpret some scientific facts regarding BioNeat NTS™, the greenest, most effective cleaning product, based on their commercial test reports and my twelve years of scientific research experience as a colloid scientist with a doctorate (Ph.D.) in Chemistry.

BioNeat NTS™ is manufactured and distributed by BIO-NEAT INC. of Fort Lauderdale, Florida. It is formulated from all-natural, USEPA-satisfied, and USFDA-safe ingredients according to a proprietary process. The components of the BioNeat NTS™ product were completely analyzed by XENCO Laboratories (a NELAC-accredited testing laboratory) of Carrollton, Texas. The following analyses were performed:

1. Mercury by EPA 245.1
2. Metals by EPA 200.8
3. Pesticides and PCBs by EPA 608
4. VOA (Volatile Organic Analysis) GC/MS by EPA 624
5. Total Cyanide (Colorimetric, Automated UV) by SW-846 9012

For ALL substances tested (over 60 metals or volatile organic compounds), the amounts found were below reportable limits. No toxic heavy metals, organic solvents, PCBs or pesticides beyond the safety limit for everyday use were found. The contents of common heavy metals and chlorinated hydrocarbons were tested by Xenco Labs and their report indicates that BioNeat NTS™ is a safe product for humans and animals.

Table 1. Concentration of Heavy Metals and Chlorinated Hydrocarbons in BioNeat NTS™  
(By Xenco Labs)

COMPOUND	CONCENTRATION (mg/kg)
Arsenic	0.0265
Cadmium	<0.005
Chromium	0.0985
Copper	<0.0150
Lead	<0.0100
Nickel	<0.0250
Zinc	0.2455
Cyanide	<0.300
Chlorinated Hydrocarbons	<5.0
Mercury	<0.500 ug/L


Analytical results from Bio-Aquatic Testing Inc. (a NELAC-accredited testing laboratory) of Carrollton, Texas, demonstrate as follows: In comparison to the majority of conventional, market-branded cleaning products, which usually contain the effective surfactant Sodium Laurel Sulfate, BioNeat NTS is *six to ten times less toxic* when the marine invertebrate species, *Mysidopsis bahia* (*Americamysis bahia*) and the marine vertebrate species, *Menidia beryllina* were used as subjects in the tests. During their 48 hours and 96 hours survival experiment, 50% of the *Menidia beryllina* was killed in 96 hours in the presence of a 12.19 ppm solution of sodium laurel sulfate (LC50 or median lethal concentration), while the same survival rate was achieved at concentrations even as high as 136.12 ppm of BioNeat NTS™ in the solution. Bio-Aquatic Testing Inc.'s results show that BioNeat NTS™ can be up to 10 times less toxic than other common cleaning products containing Sodium Laurel Sulfate or similar surfactants as part of their formulation.

Table 2. Surface Washing Agent Toxicity  
(By Bio-Aquatic Testing Inc.)

MATERIAL TESTED	SPECIES	LC50 (PPM)
BioNeat NTS™	<u>Menidia beryllina</u>	136.1
	<u>Mysidopsis bahia</u>	70.7
No. 2 Fuel Oil	<u>Menidia beryllina</u>	3.35
	<u>Mysidopsis bahia</u>	2.24
Product & No. 2 Fuel Oil	<u>Menidia beryllina</u>	4.73
	<u>Mysidopsis bahia</u>	2.24
Sodium Laurel Sulfate (Reference Toxicant)	<u>Menidia beryllina</u>	12.19
	<u>Mysidopsis bahia</u>	10.53

BioNeat NTS™ is not only safe to be used for everyday cleaning, it is also a powerful, industrial-strength cleaning product that can even clean an oil-drilling rig or an oil spill. Its safety properties are highly related to its unique formulation. BioNeat NTS™ only contains FDA-approved (GRAS list) components and uses natural products in its formulation. Its superior cleaning capability is powered by modern bio-nanotechnology and science. BioNeat NTS™ forms particles four-nanometers in size when it is manufactured. This effective component of the BioNeat NTS™ formulation has extraordinary surface activity. These nanoparticles can surround oil drops, grease, and many other contaminants rapidly with their fatty tails and leaving their soluble heads outside. When water is applied, these oily contaminants can be easily rinsed away as a biodegradable biomass. Due to the extremely small size of these particles, BioNeat NTS™ is significantly more effective as a surfactant and emulsifier than other conventional soaps or detergents with larger-sized micelles.

This report was prepared by Shaoyong Yu Ph.D., Consulting Chemist for BIO-NEAT INC. The opinions contained herein reflect only interpretations of results obtained from testing performed and attested to by the independent laboratories cited above.



Shaoyong Yu, Ph.D.