AgriHit™ Plant Tonic - Growth & Health Enhancer

Use our FDA exempt "green" AgriHit™ Plant Growth & Health Enhancer made solely from plant extracts formulated for healthier, bigger, and stronger plants which will produce up to a 30% higher crop yield, guaranteed!

Available in bottles: 5, 30 and 275 US gallon containers

Dilution ratio with water to AgriHit™ 500:1 or as directed by product manual available upon request.

AgriHit™ Plant Growth & Health Enhancer:

- Effectively increases root growth rates
- Substantially increases nutrient intake
- Plants become appreciably more disease resistant
- Rapidly revives stressed plants
- Accelerates photosynthesis
- Increases Brix sugar levels
- Optimizes CO2 utilization
- Greatly accelerates starter plant growth
- Noticeably improves rates of germination

AgriHit™ Plant Growth & Health Enhancer has been approved under the GRAS (Generally Regarded as Safe) and EAFUS (Everything Added to Food in the United States) categories associated with the rules and regulations governing food additives. AgriHit™ – a bio based biodegradable product also easily meets the definition stipulated under Section 9002 of the FSRIA (the Farm Bill of 2002).

Completely non-toxic to humans, animals, and plant life, AgriHit™ qualifies for a zero (“0”) U.S. Government OSHA rating as a totally non-hazardous product.

AgriHit™ is a plant tonic capable of rejuvenating crops and plants as it benefits the entire plant starting from the base of the root system right the way up to the petals. With AgriHit™ you can make sure your plants and crops are given the best chance to succeed if you mist them with AgriHit™, which is recognized in agricultural circles as a Best-in-Class plant tonic.

When AgriHit™ Plant Growth & Health Enhancer is used in conjunction with traditional pesticides and fertilizers, it greatly improves the delivery as well as the potential of the crops grown or raised. The pesticide dissolves more easily in the water element of the AgriHit™, thereby simplifying the application to crops. The pesticide/fertilizer becomes more stable, and the potency of the chemical pesticide is further optimized, thus leading to higher levels of insect- and disease-free crops. Other major benefits of AgriHit™ Plant Growth & Health Enhancer are that it greatly reduces equipment maintenance expenditure owing to its non-chemical formulation. The tonic can be applied as a sole treatment, can be also used in rotation with conventional pesticides, or mixed equally with most pesticides, so substantially reducing application costs.
What AgriHit™ Plant Growth & Health Enhancer Can Do

Our new cutting-edge bio-based formulations not only improve upon, but surpass the standards that are currently available in today's market.

<table>
<thead>
<tr>
<th>Improves a plant’s photosynthesis, which results in a higher level of sugar (brix) production.</th>
<th>Greatly reduces plant stress</th>
<th>Maximizes the conversion of carbon dioxide into sugars with the possibility of claiming carbon credits.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improves a plant’s sap electrical conductivity and pH for more efficient output.</td>
<td>Enhances the natural pest and disease resistance or systemic acquired resistance (SAR) of plants.</td>
<td>AgriHit™ offers a totally non-hazardous and non-toxic product, which is safe for use by humans and animals, whilst at the same time being beneficial to the environment when used according to the directions provided.</td>
</tr>
<tr>
<td>Improves fruit quality and flavor.</td>
<td>Assures better germination and strength of early seedlings.</td>
<td>Provides a safer, cheaper and more productive means of increasing crop production than is available from most GMOs (Genetically Modified Organisms).</td>
</tr>
<tr>
<td>Improves storage periods and shelf life of fruit and vegetables.</td>
<td>Increases crop yields by 5% to 30%.</td>
<td>Provides workers with a safe non-toxic formula, thus enhancing the overall farming environment, from planting through to harvesting.</td>
</tr>
<tr>
<td>Improves the nutritional qualities of grains.</td>
<td>Shortens crop growth cycles due to greater plant efficiencies.</td>
<td>Provides peace of mind as you now know you are growing crops more successfully in a non-poisonous, beneficial, and highly effective manner.</td>
</tr>
<tr>
<td>Improves the soil’s biomass and water holding capacity by increasing sugar conductivity throughout the entire root structure.</td>
<td></td>
<td>Helps to lower farm production costs by reducing the need for pest and disease control. This is due to the systemic acquired resistance (SAR).</td>
</tr>
</tbody>
</table>
Green Earth Nano Science (GENS)
Toronto, Canada

www.GensNano.com
nano@gensnano.com
Tel.: 416-800-0969

AgriHit
Plant Growth & Health Enhancer

We make green technologies work for you
Green Earth Nano Science, Inc. is a pioneer in the development of Bio-Based formulations that meet the International Demands for Environmentally Friendly products.

After extensive research and testing we are delighted to announce the introduction of our new cutting edge Bio-based formulations, all of which meet the exacting Standards and in many cases exceed those that are currently available in the world market.
There are three important aspects in the soil that we should look at...

- Chemical
- Physical
- Biological
Section through Leaf to show Cell structure

Carbon dioxide enters leaf
PHOTOSYNTHESIS

- When the sun goes down and the photosynthesis factory stops production

- 30% of the total energy produced by the plant is dumped into the soil to feed the microbes.

- This percentage is used to feed the microbial system providing plants with natural nutrient intakes
If we have destroyed the microbes with chemical pesticides, herbicides, etc....we do not get the benefit of 30% of the plants total energy output.

Hundreds of thousands of different microbes in the soil - each with their own specific function eg. phosphorus solubilizes etc

Shouldn’t we be working with the plants and microbes for our mutual benefit ????
How Can AgriHit Benefit the Coffee and Banana Industry as an example?

✓ Sugar (brix levels) increased to over 50% thus boosting the SAR (systemic acquired resistance)

✓ Root Growth and Soil Penetration Significantly Increased and Improved

✓ Dramatically Improves the Natural State of Soil Biology and its Overall Health by elimination of Toxin into the soil and the watershed
✓ Offers a Mechanical Action to Counter Traditional Plant Aliments versus Traditional Toxic Chemical Strategies which Diseases Development Resistance to by nature

✓ Non Toxic to Workers, Animals and Consumers

✓ Functions as a High PH (10.2) Biobased Foliar Fertilizer Solution thus mitigating any fungi growth

✓ No Traditional Chemical Adjutants Required thus affording significant savings
✓ (100% Higher) - AgrHit Yield Increases (6-33%) compared to Traditional Yield generated Increases from Agrichemical assisted (2-17%)

✓ Cellular Absorption due to the miniscule size enables a systemic action
BIOLOGY with AgriHit

Healthy Foodweb Benefits

- Suppress Disease (reduce pathogens)
- Retain Nutrients (decrease run-off, leaching)
- Nutrients Available at rates plants require (reduce overall fertilizer requirements)
- Assist in Decomposition of Toxins
- Build (re-build) Soil Structure
- Reduce Water Use, increase water holding capacity, rooting depth
- Reduce Chemical and Pesticide usage amounts
Formulated from Biobased Particle Mediums

- AgriHit Plant Tonic and Brix Building Nutrient and Colloidal Emulsion Formulations for excellent agricultural production yields and quality.

- “Non-Toxic” providing No Hazards to Human, Animal or Environmental Impact
How AgriHit boosts plant productivity
AgriHit Seed Treatment

Versus Control

AgriHit  Control
Control used a range of fungicides unsuccessfully.
Takos – unshaped olive

Takos – 12 days after spraying

Control

AgriHit
Problem: Bacterial Spot Xanthomonas
Description: 2005-2006 Season 30% of the crop was lost to Bacterial Spot, Copper and Bordeaux sprays had little effect. 2006-2007A Spray of Immunity 1-500 was applied to Nectarines at early bud burst at 1 to 500 on Sept 5th. Of the eight rows of nectarines the top two rows and bottom two were sprayed.

Inspection & Method: An inspection of this trial was completed on Oct 3rd, 2006. Results as follows, a number of individual trees were inspected using a pregenerated list of random numbers. A count was done of the number of dead fruiting wood branches on each tree. Two treated and two untreated rows were inspected and the count noted.

<table>
<thead>
<tr>
<th>Tree Number</th>
<th>Treated Row 1</th>
<th>Treated Row 2</th>
<th>Control Row 3</th>
<th>Control Row 4</th>
</tr>
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<tbody>
<tr>
<td>3</td>
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<td>0</td>
<td>2</td>
<td>0</td>
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<td>36</td>
<td>0</td>
<td>0</td>
<td>43</td>
<td>93</td>
</tr>
</tbody>
</table>

Total 2 5

From the above results the interesting statistic is that only 3 trees in 20 [15%] in the treated rows had dead fruiting branches as compared to 19 of the 20 in the control [95%]. This represents a difference of 80% between the treated and the control. This will represent a huge difference when the crop is harvested.
How does AgriHit produce such fantastic results?
AgriHit is a colloidal emulsion that offers a natural transport to more effectively deliver a large spectrum of micro nutrients necessary for essential plant health, growth and overall increased crop yields and quality.
AgriHit uses natural bio-based ingredients. The main ingredients in AgriHit, are vegetable oils and other agriculturally derived products.

It contains NO petroleum derivative by-products, and has NO reported incidents of phyto-toxicity at the recommend dosages.

The theory put forth is that because of the incredible nano size of the ingredients within the colloidal sub-strata, these elements are easily absorbed into the plant’s system and cannot be washed off by rain or irrigation and this stimulates increased photosynthesis and sugar production equaling greater plant productivity and quality.
OTHER COLLATERAL BENEFITS ASSOCIATED WITH THE USE OF THE AGRIHIT FORMULATIONS

1. Fatty acids penetrate through the insect's outer covering (cuticle) dissolving or disrupting cell membranes and phytoplasm. This disrupts cell integrity causing cells to leak and collapse, resulting in dehydration and death of most soft insects.

2. Can act as an insect growth regulator interfering with cellular metabolism and the production of growth hormones during metamorphosis.

3. Because of its carbon length, it can de-wax the pest’s joints leading to paralysis and they fall victim to other pests and diseases.

4. Strips pests organic shields (wax, bio film, etc) used as a Protectorant to render it defenseless against subsequent treatments.
5. Impacts the exoskeleton structure of the pest upon contact by disrupting the molecular structure of the chitin and other protein substances that protect the insect. This mechanism of action triggers the rapid and irreversible deterioration of the insect's spiracles and tracheal system, resulting in suffocation.

6. Has the ability to fit into the interstices of complex hydrocarbon chains and disintegrate them.

7. Emulsifies and separates bacterial structures thereby stopping the reproduction cycle.

8. Fatty acids kill insects by blocking specific neural pathways, Octopamine neuro-receptors. Octopamine in insects are the neurotransmitters that control insect movement, behavior and metabolism. The blockage of the receptors by AgriHit prevents the transmission of the Octopamine signals, which leads to toxicity such as excitation, hyperextension, immobilization and death.
Sustainable Agriculture for Optimum Quality and Profitable Yields
AgriHit Coffee Protocols:

- **Seed Treatment:** Roll seeds in a 1-500 solution for optimal germination. 10-15 liters per tonne is adequate or equivalent.

- **Nursery plants:** Spray regularly every 14-21 days with a 1-500 liter dilution rate ensuring good coverage of leaves (use a fine nozzle for best results). Avoid any runoff from leaves by over spraying.
AgriHit Coffee Protocols:

- **Field trees**: Use the following rates for different sized trees, 250 liters of a 1-500 dilution spray per hectare for every 1 meter of tree height. Add an additional 125 liters of solution for every additional 0.5 meter height. Ensure fine nozzle selection and pressures are adequate to penetrate the canopy. Frequency of spray application is 14-21 days dependent on weather and growth conditions. Cooler weather applications could be extended to every 28 days.
AgriHit Banana Protocols:

- **Nursery plants**: use 100mls of AgriHit in 50 liters of water for every 1 cubic meter of potting mix and mix thoroughly.

- **Young nursery plants**: Spray every 10 days with a 1-500 solution with a fine nozzle sprayer ensuring there is no leaf runoff. In very wet conditions spray weekly.
AgriHit Banana Protocols:

- **Field applications:** use 250 liters of 1-500 solution for every 1 meter of plant height and increase by 125 liters for every 0.5 meters of additional height. Spray every 14-21 days apart ensuring good leaf coverage. In wet weather frequency may need to be increased to a weekly spray.
AgriHit Banana Protocols:

- **Post Harvest Treatment:** mix a 1-500 solution of the AgriHit into the holding tank and dip the fruit for approximately one minute before packaging.

- **Aerial Application: Controlled Droplet Application**
  
  Bananas and Coffee can be successfully sprayed by aircraft at very low application rates of 1 liter of AgriHit per hectare mixed with 4 litres of vegetable oil.
CONCLUSION

- AgriHit can revolutionize the Agricultural industry both economically and environmentally and elevate this industry to a new horizon especially with regard to the economic and financial performance of crop production, nutrition and overall yields and quality.

- Agrihit is now playing a major role as a CLEAN, SAFE and Pest-free inhibitor for the worlds agricultural marketplace, offering unsurpassed ecological and human health solutions.
AGRIHIT APPLICATION INSTRUCTIONS

PLANT BIO-STIMULANT AND BRIX BUILDING FOLIAR TONIC

Introduction.

A farmer’s basic desire is to grow crops with minimum input effort and cost, but with maximum quality output and profitability.

AgriHit is a new and dynamic Bio-Stimulant and Foliar Tonic, which can accelerate photosynthesis and the production of sugar, which is a basic function of all plant cellular systems. When AgriHit is used on a regular basis, it increases internal sugar levels in the plant, which provides it with natural pest and disease resistance (systemic acquired resistance or SAR), while at the same time improving crop quality and shelf life. Increases in yield and quality are well documented when AgriHit is sprayed onto crops, trees or plants. Brix level increases of 50% or more are not uncommon, at times measuring as high as 80%.

AgriHit has been certified as a 100% bio-based product by the USDA and bears the label of the NSF (National Science Foundation) for application in and around food processing areas. It is made from extracts of natural plants and all ingredients are on the FDA approved GRAS and EAFUS list of food products. It is totally non-hazardous with a “0” OSHA rating and is biodegradable over 28 days. It is completely non-hazardous and 100% non-toxic, boasting of a “0” toxicity rating as per standardized ASTM LD-50 testing procedures.

What AgriHit Can Do.

• Improve a plant’s photosynthesis, which results in a higher level of sugar (brix) production.

• Improve a plant’s sap electrical conductivity and pH for more efficient output.

• Improve fruit quality and flavor.

• Improve storage periods and shelf life of fruit and vegetables.

• Improve the nutritional qualities of grains.

• Improve the soil’s biomass and water holding capacity by increasing sugar conductivity to the root structure.

• Reduce plant stress.
• **Enhance the natural pest and disease resistance or systemic acquired resistance (SAR) of plants.**

• **Assure better germination and strength of early seedlings.**

• **Increase crop yield by 5% to 30%.**

• **Shorten crop growth cycles due to greater plant efficiencies.**

• **Help to lower farm production costs by reducing the need for pest and disease control measures, due to the systemic acquired resistance (SAR).**

• **Maximize the conversion of carbon dioxide into sugars with the possibility of claiming carbon credits.**

• **Offer a totally non-hazardous and non-toxic product, safe for use by humans and animals, while at the same time being beneficial to the environment when used according to directions.**

• **Provide a safer, cheaper and more productive means of increasing crop production than is available from GMOs (Genetically Modified Organisms).**

• **Provide a peace of mind from knowing you are growing crops successfully in a non-poisonous, beneficial and highly effective manner.**

• **Provide workers with a safe non-toxic farming environment, from planting through harvesting.**

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**How Does AgriHit Work?**

Plants, humans and animals, in essence, are electro-magnetic and governed by the Periodic Law and Table. In photosynthesis, plants require radiation from the Sun plus 6 molecules of water and 6 molecules of carbon dioxide in order to make 1 basic sugar molecule and 6 molecules of oxygen. We know that plants emit oxygen into the atmosphere during the photosynthesis process. Plants use the 1 molecule of basic sugar that it manufactures as the ‘Foundational Building Block’ for everything that we see growing above and below ground, producing roots, branches, stems, leaves, flowers, and fruit or grain. If the basic sugar molecule is that important to the whole equation of plant growth, it means that when we increase sugar production in plants with AgriHit, it will have a major impact on plant production, yield and quality.
AgriHit nutrients are able to enter into plant cells due to their very small nano-scale (3-5 nm) molecular size. Although it does not possess the large amount of conventional nutrients normally expected of foliar fertilizers, the nutrients it does provide are extremely effective and super efficient due to their small size. They are able to diffuse into the plant cells, supplying them with energy and nutrition, which results in an increase in sugar production. This process is commonly referred to as photosynthesis. Sodium molecules, which are cations (positively charged molecules), constitute a significant percentage of AgriHit. The sodium increases the plant’s electrical conductivity and this helps with the electrical communication within the cells to make them more productive. The chloroplasts of the cells that constitute the leaf’s sugar factory have 4 positive magnesium molecules combined with one nitrogen molecule. The positive magnesium molecules help to attract and pull in the positive sodium molecules and other elements attached to the sodium, thereby getting a piggy back ride into the plant’s sugar factory cells. These two positive cations attract each other at well below 50 nanometer size. The net result of this action is more fuel, energy and conductivity to boost the sugar production capacity of the plant. AgriHit has undergone numerous trials worldwide, all of which have shown increased sugar production in a wide variety of plants, some by as much as 80%, and the results are particularly spectacular when normal plant nutrition is limited or compromised.

As soon as the sugar level (i.e. brix) in a plant increases, both its rate of growth and total productivity is accelerated, helping to boost what is termed systemic acquired resistant, or SAR for short. These higher sugar levels enhance the nutrient uptake and enable the plant to defend itself from attacks by both pests and pathogens. As the widely reknown late Dr. Carey Reams stated categorically, “higher brix levels in plants mean higher yields and quality.”

As the plants become more and more efficient at sugar production, they use this sugar to grow new leaves, flowers, fruit and roots. Plants also symbiotically support the biology with food in the form of the sugar, which they have produced. The amount of sugar that finds its way into the root structure constitutes approximately 30% of the plant’s total sugar production and is used to feed the rhizosphere and the mycorrhizal fungi, which in turn stimulates the biomass in the soil. This biomass converts, over time, into organic carbon, which is a storehouse for nutrients and water and provides a home for the plant’s biology. The major benefit is that this capability is able to affect the air and porosity of the soil, both major considerations for growing plants to their maximum capacity.
**AgriHit works Best in compromised nutrient conditions.**

Because AgriHit has a spectrum of molecular sized nutrients entering the plant’s cells, efficiency increases, which frees up more resources for the plant to obtain other nutritional requirements. The importance of this was understood years ago by Justus von Liebig, who stated, in his Law of the Minimum, that “it is the element in least supply that governs productivity”. Or put more simply, “growth is controlled not by the total resources available, but by the scarcest resource,” a factor still not well understood today.

**Pest and Disease Resistance.**

It is a well-documented fact that plants with a higher brix/sugar level have better resistance to pests and disease. This occurs as the plants bio-photon emissions increase and the plant develops more resistance to pest and disease attack (called systemic acquired resistance, or SAR for short). Simplistically put, all organic cells resonate at their own individual frequencies, and when plants have a good spectrum of nutrients, required in order to function efficiently, their frequency resonance increases and this is measured in the form of bio-photon emission.

**AgriHit Results.**

The results from the use of AgriHit have been extensively documented and show a marked increase in yield and quality levels, in some cases by as much as 33% with regular application. Rice crops in Turkey and Thailand showed an increase of 20% to 33%, with improved flower set and earlier harvests. AgriHit demonstrates a versatility that is extremely flexible. Wheat in Zambia had an 80% increase in brix levels, whilst in Slovenia a trial showed a 15% increase in yield and a definite protein quality improvement after only two sprayings at the end of the season. Growers of stone fruit in South Africa boasted of an acceptance rate of 65%, after being treated with AgriHit, compared with the 25% rate realized by the control.

Onions in the UK survived the continuous rain and flooding in 2007 to produce a healthy salable crop, compared to the control, which reported a crop failure, despite being heavily sprayed with the fungicides commonly available. In Hawaii, the onion harvest was 25 days earlier, but still showed a 20% increase in size. Olives in Turkey were afflicted with a debilitating disease termed Takos, which disappeared after the trees were sprayed with AgriHit. Growers reported a healthy olive crop compared to the control, with fruits measuring 2x to 3x larger. The strawberry crop in the UK had larger fruit and continued bearing past the traditional close of the season, producing 25% more than the traditional crops. Macadamia nut farms in Australia measured a remarkable increase of 85% in the brix level of the leaves within 4 days of being sprayed, when compared to the conventionally treated trees. Persimmons in the USA reported an increase of 4x in...
plant growth, when compared to the neighboring crop reports over a 3 month period.

When presented with incidents of crop diseases, the cost of treatment with AgriHit was a minimum of 25%, and often as much as 50% less than that of conventional petro-chemicals.

AgriHit is particularly effective in greenhouses, with nurseries reporting earlier and almost total germination, the elimination of damping off, faster plant growth and a minimum 20% increase in seedling size.

**Foliar applications tips for best results with AgriHit.**

- AgriHit works best when applied to the foliage of plants at a dilution rate of 1 part AgriHit to 500 parts of clean water. Flowering plants are benefited by a dilution of 1-1000.

- The concentrate should be premixed with clean water at a temperature range of 24-28 degrees centigrade, before adding to the spray tank, for optimum results.

- Maximum results are achieved by using a fine nozzle, in order to obtain maximum leaf coverage.

- Foliar spraying results are most effective when sprayed from late afternoon until an hour after sunrise, when the leaves’ stomata are open. Or, put another way, when the ambient air temperature is lower than the ground temperature.

- AgriHit works best when applied on its own, but is compatible with most other spray products. It is recommended that a test be made prior to mixing.

- AgriHit can be sprayed from back packs, trucks or airplane at least 3-4 hours before rain, or 3-4 hours after rain. No special training is required of personnel and no protective clothing is needed.

**Warnings.**

1. Avoid spraying plants in full flower or pollination as this may damage or burn sensitive or delicate plant material, such as petals.

2. Leaf burn on sensitive plants can result if sprayed at concentrations less than 500-1.

3. Avoid spraying newly forming fruit until after setting size has been achieved.
4. Avoid spraying on crops with bee activity. Wait until later in the day when they have returned to their hive.

5. AgriHit has a pH of 10.42 in its concentrated form. This will be lessened, once it has been diluted with water.

6. Wash with copious amounts of clean water any spills (to avoid slipping) or any spray to the eyes or body.

Application rates for different categories of crops.

**Standard solution mix is 1 part AgriHit to 500 parts water.**

**Broadacre crops, e.g. cereals and extensively grown crops** - Apply a solution of 1-500 dilution to cover the leaf area with good coverage; quantities may vary according to the size (maturity) of plants, ranging from 100 liters to 250 liters per hectare, every 14 - 21 days or weekly, if there is a disease problem.

**Horticultural crops** - Apply a minimum of 200-500 liters per hectare of the 1-500 solution every 7-14 days ensuring good leaf coverage. Spray every 7 days in rainy or overcast conditions.

**Orchards and Vines** - Apply a minimum of 200-500 liters per hectare of 1-500 solution for every 2 meters of leaf curtain on the crop. Spray to ensure good leaf coverage every 14 -21 days. In wet overcast conditions spray weekly.

**Potting Mixes** - As a soil nutrient in potting mixes use 50 liters of water and 100mls of AgriHit to every 1 cubic meter of potting material and mix thoroughly.

**Seed Treatments** - Seeds can be rolled in a 1-500 solution of AgriHit, immediately prior to planting, to insure maximum emergence.

Do not apply to delicate skinned seeds such as peanuts and soybeans.

**Large Gardens and Turf** - Apply a minimum of 200 liters of 1-500 solution per hectare every 14 days during good growth conditions. Reduce to 21 day intervals during winter months.

**Household Gardens and Potted Plants** - Apply 30 milliliters of AgriHit to 5 liters of water and use a fine spray ensuring good leaf coverage. Caution should be taken during flowering as petals may be subject to burn. Try a 1-1000 solution if burning petals is a problem. Do not drench plants or soil with the 1-500 solution.
**SECTION 1: Identification**

**Product Name:** AgriHit PLANT TONIC  
**Shipping Name:** AgriHit Plant Tonic  
**Recommended Use:** Plant Tonic/Soap Concentrate  
Dilute 1 part concentrate with 300-600 parts of water prior to use  
**Supplier:** Green Earth Nano Science Inc.  
181 University Ave. Unit 2200  
Toronto ON, M5H3M7, CANADA  
**Emergency telephone number**  
Supplier: (416) 800-0969 (phone)

**SECTION 2: Hazard Identification**

Due to its Tall Oil component, Plant Tonic is classified as hazardous due to skin and eye irritation potential.

**Signal Word(s):** WARNING

<table>
<thead>
<tr>
<th>Product Classification</th>
<th>Hazard Statement(s)</th>
<th>Pictogram</th>
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<tbody>
<tr>
<td>HEALTH</td>
<td>May Cause Skin Irritation</td>
<td>![Exclamation Mark]</td>
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<tr>
<td>Skin Irritation</td>
<td>May Cause Skin Irritation</td>
<td></td>
</tr>
<tr>
<td>Eye Damage/Irritation</td>
<td>May Cause Eye Irritation</td>
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SECTION 2: Hazard Identification (continued)

HMIS Rating (Scale 0-4):
- Health = 1
- Fire = 1
- Physical Hazard = 0

NFPA Rating (Scale 0-4):
- Health = 1
- Fire = 1
- Reactivity = 0

Precautionary Statement(s):

Prevention Statements:
- Do not get in eyes, on skin, or on clothing
- Wear protective gloves, protective clothing, eye and face protection
- Wash hands after handling
- Provide adequate ventilation

Response Statement(s):
- If skin irritation occurs, get medical advice/attention
- If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
- If eye or skin irritation persists, get medical advice/attention.
- Remove contaminated clothing and wash before reuse.

Disposal Statement(s):
- Dispose of in accordance with country, state/province, and local regulations
SECTION 3: Composition/Information on Ingredients

Mixture

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<thead>
<tr>
<th>Chemical Name</th>
<th>Cas #</th>
<th>EC#</th>
<th>Wt. %</th>
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<td>Tall Oil - Tall Oil Fatty Acid</td>
<td>8002-26-4</td>
<td>232-304-6</td>
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<td>Inert Ingredients – Proprietary Mixture*</td>
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</table>

NOTE: Composition of Tall Oil is variable and depends on raw material sources
* Compiles with OSHA 29 CFR - 1910.1200 Section (i)
"TRADE SECRETS", Contains no hazardous components under current OSHA Definitions.
100% BIOBASED Product ingredients:
Fatty Acid, and ingredients from the FDA GRAS, EAFUS and FDA Food Additive Inert List.

SECTION 4 – First Aid Measures

Symptoms or Effects: May cause irritation to the eyes and skin. Respiratory symptoms may include coughing, difficulty breathing, and shortness of breath.

| Ingestion | Ingestion may cause irritation, discomfort, and burning of the mucous membranes of the gastrointestinal tract. Symptoms may include nausea, vomiting, difficulty swallowing, diarrhea, and abdominal pain. Do not induce vomiting unless directed to do so by medical personnel. |
| Skin      | May cause irritation following prolonged contact. Flush skin with water. Wash clothing and shoes thoroughly before reuse. If skin irritation occurs, seek medical advice. |
| Inhalation| Inhalation may cause respiratory tract irritation. Symptoms may include coughing, difficulty breathing and shortness of breath. Move victim to fresh air. Administer oxygen and seek medical advice if breathing is difficult. |
| Eye Contact | Immediately flush with water for 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing. If eye irritation persists, seek medical advice. |

Note to Physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
SECTION 5 – Fire-fighting Measures

Suitable Extinguishing Media:  Foam, carbon dioxide, dry chemical, water, or sand is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide extinguishers in enclosed spaces.

Specific Hazards, Anticipated Combustion Products:  Carbon monoxide, carbon dioxide, and oxides of sulfur and nitrogen may be produced as products of combustion

Autoignition Temperature:  NAV

Special Firefighting Equipment/Procedures:  As in any fire, wear NIOSH-approved self-contained breathing apparatus and appropriate protective clothing for the situation.

Unusual Fire and Explosion Hazards:  NAV

SECTION 6 – Accidental Release Measures

Immediately notify safety and environmental personnel.

Personal Precautions:  Wear appropriate protective equipment (see section 8 below). Do not walk through spilled material as it will present a slip hazard.

Environmental Precautions:  Avoid runoff to waterways and sewers

Containment/Clean-Up:  Absorb or cover with dry earth, sand, or other non-combustible material and transfer to containers. Dike ahead of large liquid spills for later disposal
SECTION 7 – Handling and Storage

Wear appropriate personal protective equipment and follow the exposure control measures recommended in Section 8 below. Avoid contact with eyes and skin and prolonged breathing of vapor. Avoid contact with strong acids and strong oxidizers. Follow good hygiene and housekeeping practices especially before eating, drinking, or smoking.

General Handling
- Do not get in eyes, on skin, on clothing.
- Avoid breathing vapor.
- Do not swallow.
- Wash thoroughly after handling.
- Keep container closed.
- Use with adequate ventilation.

Ventilation
- Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Store in an upright container to avoid leakage.

Storage
- Store in cool, well-ventilated area.
- Avoid exposure to low temperatures.

SECTION 8 – Exposure Controls/Personal Protection

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tall Oil</td>
<td>None (OSHA, ACGIH)</td>
</tr>
</tbody>
</table>

SECTION 8 – Exposure Controls/Personal Protection (continued)
**Appropriate Engineering Controls:** Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental Exposure Controls:** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

**Hygiene Measures:** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/Face Protection:** Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Hand Protection:** Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body Protection:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved in handling this product.

**Other Skin Protection:** Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved in handling this product.

**Respiratory Protection:** Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Other Hazards:** When spilled, the product will leave a residue on floors which may be or become slippery. This may be remedied by flushing with water and drying.

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**SECTION 9 – Physical and Chemical Properties**

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Plant Tonic SDS  
Page 6 of 10
Appearance and Odor | Amber liquid, Ammonia Odor
---|---
Boiling Point | 202.3 F
Evaporation Rate | Not Tested
Freezing Point | 25.7 F
Flash Point | Greater than 205.0 F
Solubility | Miscible with water
Specific Gravity | 8.9
Vapor Density/Pressure | Not Tested

<table>
<thead>
<tr>
<th>Method</th>
<th>Parameter</th>
<th>Results</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA 160.4</td>
<td>Total Solids</td>
<td>0.4</td>
<td>Percentage (%)</td>
</tr>
<tr>
<td>AOAC 978.02</td>
<td>Total Nitrogen</td>
<td>3.42</td>
<td>Percentage (%)</td>
</tr>
<tr>
<td>AOAC 920.03</td>
<td>Nitrogen, Ammonia cal (N)</td>
<td>0.024</td>
<td>Percentage (%)</td>
</tr>
<tr>
<td>AOAC 958.01</td>
<td>Phosphorous</td>
<td>&lt;0.16</td>
<td>Percentage (%)</td>
</tr>
</tbody>
</table>

ATOMIC ABSORPTION:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Results</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Iron</td>
<td>&lt;2.1</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Magnesium (Mg)</td>
<td>&lt;2.7</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Potassium (K)</td>
<td>&lt;2.3</td>
<td>mg/Kg</td>
</tr>
<tr>
<td>Sodium (Na)</td>
<td>15.0</td>
<td>Mg/L</td>
</tr>
</tbody>
</table>

Clean Air Solvent: VOC is 1.0 g/L. Meets CAS criteria

SECTION 10 – Stability and Reactivity

Product is stable at normal room and working temperatures. No incidence of polymerization reported. No special conditions or materials to avoid. No incidence of hazardous decomposition of products reported.
SECTION 11 – Toxicological Information

Carcinogens and Toxins: Does not contain any known carcinogens in concentrations as per Code of Federal Regulations 29CFR 1900.1000 series, OSHA.

No information is available relating to any teratogenicity, mutagenicity, skin sensitization or respiratory tract sensitization.

SECTION 12 – Ecological Information

Toxicity: No data available

Persistence and Degradability: No data available.

Bioaccumulative Potential: No Data Available

Mobility in Soil: No Data Available

Other Adverse Effects: No known deleterious effect on environment.

SECTION 13 – Disposal Considerations

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
SECTION 14 – Transport Information

Correct Shipping Name: LIQUID SOAP

Transport in accordance with regulations of the code for Transport of Non-Dangerous Goods by Road and Rail, the IMO Regulations for sea freight and the IATA Regulations for air freight.

<table>
<thead>
<tr>
<th>Application</th>
<th>Cleaning Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dangerous Goods Class</td>
<td>N/A</td>
</tr>
<tr>
<td>Poisons Schedule</td>
<td>Non-poisonous</td>
</tr>
<tr>
<td>Hazchem Code</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Hazard Rating (0 = Insignificant; 1 = Slight; 2 = Moderate; 3 = High; 4 = Extreme)

SECTION 15 – Regulatory Information

Toxic Substances Control Act (TSCA): All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

This material (in its concentrated form) is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200) as an irritant.
SECTION 15 – Regulatory Information (continued)

Canadian Domestic Substances List (DSL): All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right to Know Act) Section 313: To the best of our knowledge this product does not contain chemicals at levels which require reporting under this statute.

SECTION 16 – Other Information

Revision Date: 08/29/2017

The technical data generated by the Supplier has been edited to avoid disclosure of proprietary information and to avoid redundancy. Technical data was generated from 2007 through date of issue.

The information contained in this Safety Data Sheet comes from sources believed to be accurate or otherwise technically correct. It is the user’s responsibility to determine if the product is suitable for its proposed applications(s) and to follow necessary safety precautions. The user has the responsibility to ensure that the most current SDS is used.

All inquiries regarding the content of this document should be directed to the Supplier.

Abbreviations:
ACGIH American Conference of Governmental Industrial Hygienists
CAS Chemical Abstract Service
CFR Code of Federal Regulations
N/A, NAV Not Applicable or Not Available
NIOSH National Institute for Occupational Safety and Health
NTP National Toxicology Program
OSHA Occupational Safety and Health Administration
PEL Permissible Exposure Limit
STEL Short-term Exposure Limit
TLV Threshold Limit Value
TWA Time Weighted Average