

KARRIKAID BIO-LIQUID BLEND PLANT AND SOIL ENHANCER

1) PRODUCT DESCRIPTION

KARRIKAID is a proprietary plant and soil enhancer formulated to contain Karrikin molecules. Karrikins, derived from plant smoke and first discovered in 2004, are potent signaling compounds that stimulate seeds to germinate and plants to develop quickly and vigorously in post-fire conditions. KARRIKAID liquid helps mimic these conditions when applied to soil and plants.

KARRIKAID combines beneficial organic acids and phenols with a unique biochar extract. The proprietary blending process concentrates the Karrikins, creating a synergistic liquid product that promotes a strong germination response and robust plant development.

KARRIKAID's organic acids, including acetic, propionic, lactic, succinic, citric, and pyruvic acid, improve the bioavailability of essential plant nutrients. Additionally, microbes metabolize these organic acids, which in turn enhances the natural biology of the soil. KARRIKAID is also rich in phenols that improve plants' natural responses to stress, including excessive heat, drought, UV exposure, insects, pathogens, heavy metals, and salinity pressure.



2) CERTIFICATIONS AND APPROVALS



www.karrikaid.com

TECHNICAL DATA SHEET

KARRIKAID®

VGrid Energy Systems, Inc.
513 Calle San Pablo
Camarillo, CA 93012 U.S.A.
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+1 (805) 482-9040

3) APPLICATION RATES AND TIMING

Turfgrass - Warm Season Grasses

- **Rate:** 3-4.5 fl oz / 1,000 sq ft (1.0-1.5 gal / acre)
- **Dilution:** 1:200 (0.50%)
- **Timing:** Apply six times during the spring and summer growing season. Allow a minimum of two weeks between applications.

Seasonal Crops - Leafy Greens, Brassicas

- **Rate:** 2-4 fl oz / 1,000 sq ft (0.67-1.33 gal/acre)
- **Dilution:** 1:200 (0.50%)
- **Timing:** Apply once at planting using half of the above rate. Follow up with two additional applications at the full rate. Allow 2-4 weeks between each application.

Seasonal Crop - Potato, Onion, Carrot, Beet

- **Rate:** 3-4.5 fl oz / 1,000 sq ft (1.0-1.5 gal / acre)
- **Dilution:** 1:200 (0.50%)
- **Timing:** Apply once at planting using half the above rate. Follow up with three additional applications at the full rate. Allow 2-4 weeks between each application.

Permanent Crop - Citrus

- **Rate:** 3-4.5 fl oz / 1,000 sq ft (1.0-1.5 gal / acre)
- **Dilution:** 1:100 (0.50%)
- **Timing:** Apply six times during the growing season. Allow a minimum of three weeks between applications.

Flowers and Ornamental Plants

- **Rate:** 3-4.5 fl oz / 1,000 sq ft (1.0-1.5 gal / acre)
- **Dilution:** 1:300 (0.33%)
- **Timing:** Apply once at planting using half of the above rate. Follow up with two additional applications at the full rate. Allow 3-5 weeks between each application.

Turfgrass - Cool Season Grasses

- **Rate:** 3-4.5 fl oz / 1,000 sq ft (1.0-1.5 gal / acre)
- **Dilution:** 1:200 (0.50%)
- **Timing:** Apply three times during spring growing season and three times in the fall. Allow a minimum of two weeks between applications.

Seasonal Crops - Strawberry, Pepper, Tomato

- **Rate:** 3-4.5 fl oz / 1,000 sq ft (1.0-1.5 gal / acre)
- **Dilution:** 1:200 (0.50%)
- **Timing:** Apply once at planting using half of the above rate. Follow up with three additional applications at the full rate. Allow 2-4 weeks between each application.

Seasonal Crops - Corn, Soybean, Oats, Wheat

- **Rate:** 4.5-6 fl oz / 1,000 sq ft (1.5-2.0 gal/acre)
- **Dilution:** 1:100 (1%)
- **Timing:** Apply once at planting using half the indicated rate. Make a second application about four to six weeks after planting. For best results, make a third application four weeks later.

Permanent Crop - Fruit and Nut Trees

- **Rate:** 4.5-6 fl oz / 1,000 sq ft (1.5-2.0 gal/acre)
- **Dilution:** 1:100 (1%)
- **Timing:** Apply six times during the growing season. Allow a minimum of three weeks between applications.

Seed Treatment (pre-soak)

- **Rate:** 8 fl oz per hundredweight (CWT)
- **Dilution:** 1:400 (0.25%)
- **Timing:** Soak seeds in diluted solution (eight fluid ounces in 25 gallons of water) for 120 minutes before planting.

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4) INSTRUCTIONS FOR USE

Stir or shake well before use. Where higher water rates are required for good foliar coverage, do not exceed the maximum application rate.

KARRIKAID liquid must be diluted prior to use (refer to the previous page). The product can be applied through several different methods, including soil drenching, foliar spray, and injection into fertigation systems.

Ensure suitable spray conditions (e.g. temperature, humidity, wind-speed), prior to foliar application.

KARRIKAID may stain clothing and certain surfaces. Spray away from buildings.

The product can be used together with pesticides/fungicides to improve efficacy. *(Always conduct a jar test to ensure compatibility and spray test on a small area before wide-spread use.)*

For best results, use KARRIKAID in combination with Persist[®] Micronized Biochar. Visit the Persist website for details.

(persistproducts.com/micronized-biochar)

5) CHEMICAL COMPATIBILITY

Always conduct a jar test to ensure compatibility and spray test on a small area before wide-spread use.

Incompatible materials: chlorine; certain acids; ozone; liquid oxygen. *(This list is not exhaustive. Please contact VGrid for specific questions regarding compatibility)*

6) STORAGE AND HANDLING

DO NOT CONSUME. Store in a sealed container and away from foodstuff. Do not allow pets or livestock access to this material. Always transport in sealed containers. Avoid use in confined and non-ventilated spaces. Adequate ventilation required.

Personal Protective Equipment: Overalls, gloves and covered footwear are recommended when loading, mixing or applying this product.

Keep containers tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Do not store in direct sunlight.

KARRIKAID may be disposed at an authorized waste management facility. Appropriate volumes may be applied onto a vegetated land area away from drainage zones or waterways.

Refer to the MSDS Sheet for complete requirements.

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7) LABORATORY ANALYSIS

Water Content: 91.0%

Acetic Acid: 5.6%

Other Organic Acids: 0.9%

7.0% Organic Carbon Content

Bulk Density: 1.02 g/cm³

pH: 4.0-4.5

* Not a significant nutrient source.

Karrikin testing and evaluation conducted by
Palacký University Olomouc (Olomouc, Czechia).
Contact VGrid for details.

8) PRODUCT AVAILABILITY

KARRIKAID is offered through a network of distribution partners in 275-gallon IBC totes, 55-gallon drums, and 2.5-gallon bottles.

Your Local Distributor

KARRIKAID is also available directly to consumers through www.karrikaid.com and from popular online retailers, including Amazon.

DISCOVER THE KARRIKAID ADVANTAGE

- ✓ Provides an additional layer of critical protection from biotic and abiotic stress.
- ✓ Improves the bio-availability of key nutrients and stimulates plant uptake.
- ✓ Increases microbial levels in soil which enhances nutrient cycling.
- ✓ Karrikin molecules accelerate seed germination and early plant development.
- ✓ **The result is significant yield increases in third-party crop trials. Contact us to learn more!**

Disclaimer: This information contained herein is accurate to the best of V-Grid's knowledge. V-Grid Energy System makes no suggestion or guarantees that any information listed herein is the only ones that exist. V-Grid Energy Systems makes no warranty of any kind, expressed or implied, concerning the safe use of this material within the purchaser's process or combination with any other substances. Other materials can aggravate effects, and/or this material may aggravate or add to the effects of other materials. This material may be released from gas, liquid, or solid materials made directly or indirectly from it. The user has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. Users must meet all applicable safety and health standards.