



Hortus IBA

Water Soluble Salts®

(20%)

Plant Rooting Hormone

Dissolve Salts in Water to Make Rooting Solutions. Use by FOLIAR and BASAL Methods on Plants that can be Propagated from Cuttings. Use on Annual, Perennial & Woody Ornamental Plant Cuttings.

Ingredients:

Active ingredients
Indole-3-butyric acid 20.0%
Other ingredients 80.0%
Total 100.0%

Registered by
Hortus USA Corp., NY NY 10011

Made in Holland

EPA Reg No. 63310-22
EPA Est No. 63310-HL-001

Net Weight: 2 Pounds, 4 Ounces (1 Kilo)

KEEP OUT OF REACH OF CHILDREN
CAUTION

See Attached Label for First Aid and Precautionary Statements



Use Hortus IBA Water Soluble Salts (20%) to make rooting solutions. The Salts dissolve easily in water to over 100,000 ppm IBA. Use the solutions to propagate new plants from cuttings. Treated cuttings are expected to produce uniform roots all around the basal end.

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS.**

CAUTION

Causes moderate eye irritation. Harmful if inhaled or absorbed through the skin. Avoid contact with eyes, skin, ingestion or inhalation. Avoid breathing dust (vapor or spray mist). Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear: long sleeve shirt, long pants, shoes, socks and waterproof gloves. For exposure in enclosed areas or outdoors, use a dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C, or a NIOSH approved respirator with any N, R, P or HE filter) when mixing solutions, or when spraying solutions on cuttings by the Spray Drip Down Method. When treating cuttings by the Quick Dip, Long Soak and Total Immerse Methods, use of a filtering respirator is not required. No PPE is required after cuttings are inserted into media.

USER SAFETY RECOMMENDATIONS

Users should: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

FIRST AID Classification of Pesticide: Plant Growth Regulator	
If in eyes	<ul style="list-style-type: none"> > Hold eyes open and rinse slowly with water for 15-20 minutes > Remove contact lenses, if present after the first 5 minutes then continue rinsing eye > Call a poison center or a doctor for further treatment or advise
If on skin or clothing	<ul style="list-style-type: none"> > Take off contaminated clothing > Rinse skin immediately with plenty of water for 15-20 minutes > Call a poison center or a doctor for further treatment or advise
If swallowed	<ul style="list-style-type: none"> > Call a poison center or a doctor for further treatment or advise > Have person sip water if able to swallow > Do not induce vomiting unless told to do so by the poison control center or doctor. > Do not give anything by mouth to an unconscious person.
If inhaled	<ul style="list-style-type: none"> > Move person to fresh air > If person is not breathing call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth, if possible > Call a poison center or a doctor for further treatment or advise
NOTE TO PHYSICIAN: May cause moderate eye irritation which will last a short time. This product does NOT contain any petroleum, caustics or active solvent products	
Have the product container or label with you when you call a poison control center or doctor or going for treatment. You may call 800-325-3055 or 314-770-0717. 7:30AM-5PM CST Mon-Fri or the National Pesticide Information Center (NPIC) at 1-800-858-7378	

You may also call 800-325-3055 or 314-770-0717 for an MSDS. 7:30AM-5PM CST M-F

ENVIRONMENTAL HAZARDS

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment wash waters or rinsate.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS
<p>Use this product in accordance with its labeling and with the Worker Protection Standard, 40 CFR 170. This Standard contains requirements for the protection of agricultural workers on farms, forests nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this labeling about personal protective equipment and restricted-entry intervals. The requirements in this box only apply to the uses of this product that are covered by the Workers Protection Standard (WPS).</p> <p>Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.</p> <p style="text-align: center;">THE RESTRICTED-ENTRY INTERVAL (REI) FOR THIS PRODUCT IS "0" HOURS.</p>

RATE DETERMINATION

A wide solution rate range is indicated for this product. Your ideal rates will vary according to specific plant variety, season, quality of the cuttings, and local growing conditions. Prior to large scale production, test a few plants at several rates within the range. If foliar application causes phytotoxicity, try basal applications and/or decrease rates. Use the lowest rate to produce the desired effect.

PREPARING A HORTUS IBA WATER SOLUBLE SALTS® (20%) SOLUTION USING WATER

1) Weigh the required amount of Hortus IBA Water Soluble Salts.

Measure by weight not volume.

2) Use tap water at about 65-90F; measure less than the final volume.

3) Mix: dissolve Hortus IBA Water Soluble Salts in the water.

- If precipitation occurs with tap water then dissolve in distilled, demineralized, or filtered water.
- Do not dissolve Hortus IBA Water Soluble Salts in solvents other than water.

4) Add water to the mixing container to bring the solution to the final volume.

5) Apply the solution by the selected method.

6) After use, dispose of the solution as described in the 'Storage and Disposal' statements on this label.

- For the Total Immerse and basal methods, dispose of solutions between plant lots to avoid cross contamination.
- Stock solutions can be made in any concentration, to over 100,000 ppm IBA, using Hortus IBA Water Soluble Salts mixed in water.

AMOUNT OF HORTUS IBA WATER SOLUBLE SALTS® REQUIRED

- Hortus IBA Water Soluble Salts contain 20% IBA.
- 1 gram technical IBA = 5 grams Hortus IBA Water Soluble Salts
- Note: 1 gram = 0.035 ounce

LIQUID VOLUME CONVERSION:

liters to gallon: grams Salts /liter x 3.78 = grams Salts /gallon

LITERS: To get 1000 ppm IBA: dissolve 5 grams of Hortus IBA Water Soluble Salts in water to make 1 LITER

GALLONS: To get 1000 ppm IBA: dissolve 19 grams of Hortus IBA Water Soluble Salts in water to make 1 GALLON

HOW TO MAKE RATES FROM 100 TO 10,000 PPM IBA USING HORTUS IBA WATER SOLUBLE SALTS®

ppm IBA	Weight of HORTUS IBA WATER SOLUBLE SALTS	
	grams per liter of water	grams per gallon of water
100	0.5 grams	1.9 grams
200	1.0	3.8
300	1.5	5.7
400	2.0	7.6
500	2.5	9.5
600	3.0	11.3
700	3.5	13.2
800	4.0	15
900	4.5	17
1,000	5.0	19
5,000	25.0	95
10,000	50.0	190

PROMOTE ROOTING OF PLANT CUTTINGS

Use to propagate new plants from cutting, from those easy to root to the most difficult to root.

EASY STEPS

- Take plant cuttings, usually stem cuttings.
- For woody cuttings usually wound by making a 3/4" long notch at basal end.
- Apply solutions to plant cuttings by the methods listed below. (Do not apply the dry Salt powder to the plant cuttings.)
- Take care of cuttings as appropriate for the plant variety. Control watering, temperature, humidity, light and other environmental factors. Observe and control external factors such as insects and fungus.
- Use the minimum concentration to achieve results; excess concentration may inhibit root formation.

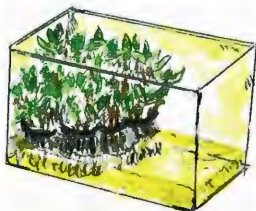
BASAL METHODS FOR USE ON CUTTINGS IN THE GROWING SEASON AND ON DORMANT WINTER CUTTINGS

BASAL LONG SOAK METHOD

Use on cuttings in the growing season and winter dormant cuttings.

- Immerse basal end of cuttings approximately 1" in solution for 12 to 48 hours.
- Stick immediately or store.

Trial Rates are ppm IBA using Hortus IBA Water Soluble Salts



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	Trial Rates
Hard to root annuals and perennials	25-100
Herbaceous cuttings	50-200
Woody ornamental cuttings, grape, roses	50-400

QUICK DIP METHOD

Use on cuttings in the growing season and winter dormant cuttings.

- Immerse basal end of cuttings approximately 1" in solution a few seconds.
- Stick immediately or store.

Trial Rates are ppm IBA using Hortus IBA Water Soluble Salts



Trial Rates are ppm IBA using Hortus IBA Water Soluble Salts

	Trial Rates
Annuals, soft perennial, tender cuttings from ornamental plants, tropical house plants	80-200
Herbaceous, perennials, pot roses cuttings	150-1500
Difficult to root herbaceous, perennials, tropical hose plant cuttings	500-1500
Softwood cuttings	500-1500
Hardwood cuttings	500-2000
Difficult to root hardwood cuttings (Avoid high rates by using the Basal Long Soak Method)	2000-10,000

FOLIAR METHODS FOR USE ON LEAFY CUTTINGS IN THE GROWING SEASON



TOTAL IMMERSE METHOD

Use on leafy cuttings in the growing season

- Total immerse the cuttings in the solution for about 5 seconds. A basket is useful.
- Stick immediately or store.



SPRAY DRIP DOWN™ METHOD

Use on leafy cuttings in the growing season

- Stick cuttings.
- Spray the solution on leaves and stems until the solution drips down into media.

TRIAL RATES FOR THE TOTAL IMMERSE AND SPRAY DRIP DOWN™ METHODS

Trial Rates are ppm IBA using Hortus IBA Water Soluble Salts

	Trial Rates
Annuals, perennials, chrysanthemums	80-250
Herbaceous and hard to root perennial plant cuttings	250-1500
Woody ornamental cuttings	300-1500



IMPROVE PLANT GROWTH

Use on rooted plants and leafy plant cuttings in the growing season to develop uniform crops, when propagating plants from cuttings after sticking by any method, or when transplanting.

- Method: Spray Drip Down™ Method: Spray the solution onto the leaves of plants until the solution drips down.

- Rates: Use the Spray Drip Down™ Method trial rates listed above. Use the lowest concentration to produce the desired effect.
- Frequency: Weekly or until the required results are achieved.
- Trials: Do small trials prior to doing large scale production.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage

Store in a cool dry place under lock and key. Post as a pesticide area. Always store pesticides in the original container. Store away from food, pet food, feed, seed, fertilizers, and veterinary supplies. Place liquid formulations on lower shelves and dry formulations above.

Pesticide Disposal

To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Handling

Nonrefillable container. Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

WARRANTY

It is warranted that this product conforms to the chemical description on the label thereof and is reasonably fit for purposes stated on such label only when used in accordance with the directions under normal use conditions. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of application all of which is beyond the control of Rhizopon b.v. or Hortus USA Corp. To the extent consistent with applicable law, Rhizopon or Hortus USA shall not be liable for consequential, special or indirect damages resulting from the use or handling of this product. To the extent consistent with applicable law, all risks shall be assumed by the buyer. Rhizopon or Hortus USA make no warranties

Manufactured by
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Hortus IBA Water Soluble Salts are available from horticultural distributors. For distributor ordering or referral contact Master Distributor: Phytotronics sales@phytotronics.com 314-770-0717

Technical Support & Articles:
rootinghormones.com

ON-LINE CALCULATOR:
Find the measured weight of Hortus IBA Water Soluble Salts for any ppm or liquid volume
<http://hortus.com/calculatesalts.htm>



Hortus

Plant Propagation from Cuttings

A Guide to Using Plant
Rooting Hormones by
Foliar & Basal Methods

Third Edition

Plant Propagation from Cuttings produces new plants identical to stock plants. Rooting Hormones are essential to develop roots on cuttings. This Guide describes five successful foliar and basal propagation methods. The methods use the rooting hormones Hortus IBA Water Soluble Salts® (rooting solutions) & Rhizopon® AA (rooting solutions & dry powders).

**The World's Finest Rooting Products by
Hortus USA Corp.**

support@hortus.com rootinghormones.com

Hortus IBA Water Soluble Salts & Rhizopon AA Plant Rooting Products are available from favorite horticultural suppliers.

For distributor purchasing & distributor referral contact master distributor:
Phytotronics 314-770-0717 sales@phytotronics.com