

Grodan Plugs

Instruction manual

For medicinal crops



Designed to grow

Thank you for choosing Grodan!

Grodan is the global leader in supplying soilless rootzone management solutions for Controlled Environment Agriculture. These solutions are applied to the cultivation of vegetables and medicinal crops. Research shows that high-tech greenhouses have the biggest positive impact on the UN Sustainable Development Goals compared to all other growing systems and score highest within water and nutrient efficiency. The use of stone wool Precision Growing media in a greenhouse can produce higher yields with significantly less resources than other cultivation methods. The key is precision. The essence of Precision Growing is the use of less soil, less water, less fertiliser, lower CO₂ emissions, and gaining a higher yield.

Combined with stone wool growing media, Grodan enables Precision Growing by offering a sensor system, a software platform and personal advice to help maximise crop potential with data-driven cultivation. Grodan's innovative growing media solutions facilitate the sustainable production of healthy, safe, and fresh food produce. Furthermore, it creates the possibility to use biocontrol and reduce, or even eliminate, the use and risk of chemical plant protection products.

Sustainability plays a prominent role within Grodan, from the manufacture of stone wool growing media to end-of-life solutions.

Disclaimer

Although all our information and advice is compiled with the greatest possible care and attention to detail and includes the latest technical developments, we cannot accept any liability for the contents.

Grodan is part of ROCKWOOL B.V.; the general conditions of sale and delivery of ROCKWOOL B.V. apply to all information and advice supplied by us and to the agreements we enter into and to the delivery of all our products. These general conditions have been filed with the Limburg Chamber of Commerce under number 13014428 and may be obtained free of charge from Grodan. For the conditions and extra information on the Kiwa Product certificate we refer you to www.grodan.com.

Table of contents

1	About this document	4	5	Installation	17
1.1	Intended reader	4	5.1	Removing the packaging	17
1.2	Symbols used in this manual	4	5.2	Saturating the product	17
1.3	Terminology	5	5.3	Sowing Seeds or Cloning into a Grodan Plug	18
1.4	About Grodan	6			
1.5	Warranty	7			
2	About this product	8	6	Troubleshooting	20
2.1	Intended use	8	6.1	Common challenges	20
2.2	Design & function	8	6.2	Performing a sinking test	21
2.3	Plug types	9	6.3	Complaints procedure	22
2.4	Product label	11			
3	Safety	12	7	End of Growing Cycle	23
3.1	Safety symbols	12	7.1	Confirm proper classification	23
3.2	Personal protective equipment (PPE)	13	7.2	Recycling Grodan products	23
3.3	First aid procedures	14			
4	Transport and storage	15			
4.1	Delivery or collection	15			
4.2	Handling the product on-site	16			
4.3	Storing the product on-site	16			

1 About this document

This user manual contains advice and guidelines on the cultivation of medicinal crops using Grodan products. Optimal cultivation results can only be achieved if Grodan products are used according to the instructions and guidelines provided in this user manual.

This user manual has been composed with great care. The contents of this manual are based on Grodan's knowledge of our products' properties and of the specific requirements that they must meet in practice.

This edition of the user manual replaces all other previously published information.






1.1 Intended reader

Grodan products are intended for medicinal crop growers.

If you intend to propagate other crops, contact Grodan to ask for the applicable guidelines.

1.2 Symbols used in this manual

This manual contains symbols that indicate useful information that complements the instructional text and illustrations. Familiarise yourself with the following symbols before reading the rest of this manual:

Symbol	Meaning
 CAUTION!	Indicates a hazardous situation that could result in moderate or minor injury.
 NOTICE	Indicates a situation that could result in product damage.
 SAFETY INSTRUCTIONS	Reference to the safety instructions in §3 of this manual.
	Reference to another chapter or paragraph within this manual.
	Reference to the appendices or to an external document.

1.3 Terminology

This user manual contains technical terms to describe important processes or parts.

Familiarise yourself with the following terms before reading this manual:

1.3.1 Nutrient solution

The water-based solution that contains all macro and micro nutrient elements that are essential to plant growth and development in the absence of soil. Nutrient solution is used to wet Grodan products.

1.3.2 Wetting

The act of saturating a Grodan product with nutrient solution.

1.3.3 Water content (WC)

The amount of water that has been absorbed by a Grodan product after being saturated with the nutrient solution. WC is expressed as a percentage of the maximum amount of water the product can absorb.

1.3.4 Electrical Conductivity (EC)

EC is a measure of the total salts concentration in the nutrient solution. EC is therefore a mixture of essential (e.g. NO_3^- , Fe^{3+}) and non-essential (e.g. Na^+) elements required for plant growth.

1.3.5 pH





pH is a measure of how acidic or alkaline the nutrient solution is. pH plays an important role as it influences the availability of nutrients in the solution to the plant. The pH of the nutrient solution should be within range 5.2 – 6.0.

1.4 About Grodan

Grodan – part of the ROCKWOOL group – was founded in 1969 and is active in more than seventy countries worldwide. The head office is located in Roermond, the Netherlands.



Contact our customer service if you have any questions about this user manual:

			
North-West Europe	ROCKWOOL B.V. /	+31 (0)475 35 30 40	
Benelux	Grodan	+31 (0)475 35 30 20	
Spain, Portugal, South-Korea and Latin America	Industrieweg 15 P.O. Box 1160 6040 KD Roermond The Netherlands	+31 (0)475 35 38 57	+31 (0) 475 35 37 16
Central and East Europe Mediterranean Middle East Asia Pacific Gulf region South Africa	Grodan (ROCKWOOL Polska Sp. z o.o.) Postępu 6 02-676, Warsaw Poland	+48 22 375 07 80	N.A.
North America	Grodan (ROXUL Inc.) 8024 Esquesing Line Milton, ON L9T 6W3 Canada	+1 800 872 2476 (toll free) +1 905 636 0611	+1 905 636 1901

1.4.1 Online

	North America	Europe
	info@grodan101.com	info@grodan.com
	www.grodan101.com	www.grodan.com
	www.linkedin.com/company/grodan101	www.linkedin.com/company/grodan
	www.twitter.com/grodan101	www.twitter.com/grodan
	@grodan101	@grodaninternational
	www.facebook.com/Grodan101	www.facebook.com/Grodaninternational
	www.youtube.com/@grodan1014	www.youtube.com/user/Grodansubstrates

1.5 Warranty

Grodan warranty terms and conditions apply to all Grodan products.

Any product defects or performance issues must be reported to a Grodan account manager or via an official complaint procedure.



Information about the Grodan complaints procedure can be found in §6.3 of this manual.



More information about the warranty terms and conditions can be found at www.grodan.com/general-terms-of-sale-and-delivery.

2 About this product

This chapter contains the information that is necessary to understand the function and design of your Grodan product.

2.1 Intended use

Grodan Plugs are intended to be used to germinate seeds or vegetative stem cuttings of medicinal crops.

Grodan Plugs are intended to be used to cultivate medicinal crops.

If you wish to cultivate other crops, please contact Grodan for custom guidelines.

Grodan Plugs are intended for professional use.

2.1.1 Unintended use

Grodan Plugs are not intended to be used to cultivate plants for the entire life cycle of the plant.

Grodan Plugs are not intended to be used to cultivate anything other than plants.

Grodan Plugs are not intended to be used outside of the recommended pH and EC ranges.

2.2 Design & function

Successful plant cultivation begins with the planting of a seed or rooting of a healthy vegetative stem cutting. Grodan Plugs have been designed to easily germinate seeds for various vegetable crops, using the unique qualities of stone wool.

2.2.1 Key properties

Grodan has designed high quality plugs to provide the following benefits to plant propagators:

- Available in various types, dimensions and quantities to ensure a matching solution.
- Suitable for and able to adapt to the automated production process in the greenhouse.
- Able to adapt to variable climate conditions, as well as different nutrition and irrigation regimes, in order to promote optimum germination and plant growth such that the young plants can be delivered to the precise specification of the customer.
- Unparalleled support from Grodan's network of dedicated crop Technical Advisors.

2.2.2 Stone wool

Grodan Plugs are made of stone wool: a natural material made from basalt rock. During production, the basalt is heated to 1500 °C / 2750 °F and spun into long fibres to create a wool-like structure. The result is a lightweight, absorbent material that is ideal for the cultivation of plants.

Stone wool offers many benefits to Grodan Plugs:

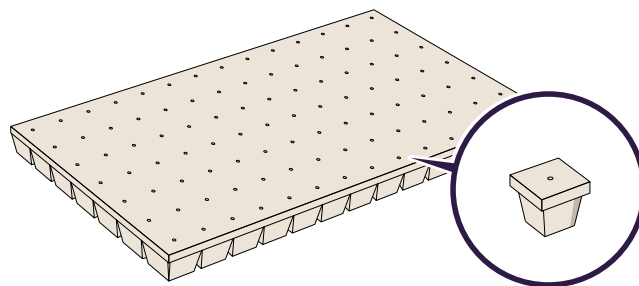
- Lightweight and easy to handle. At the same time, the plugs are structurally sound, making them ideal for the automated process of seeding and transplanting.
- Water and nutrients will not bind to the stone wool fibres, meaning all the water and nutrients added to the plug are available for plant growth.
- Contains no pathogens or unwanted seeds due to the manufacturing process.
- Unique hydrophilic fibres that allow for rapid and even water distribution throughout the entire plug. This gives the plugs excellent buffer and re-saturation capability.
- Homogenous growing medium, ideal for precise application of water and nutrients for consistent plant growth.

2.3 Plug types

Grodan Plugs are available in different types. Each type of Grodan Plug has its own strengths and can offer specific benefits to the cultivation process depending on the requirements of the customer.

Disclaimer: Check with your local Grodan Account Manager on the availability of plugs in your region.

2.3.1 A-OK

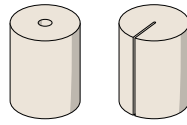


A-OK Plugs are tapered plugs designed for propagating medicinal crops.

A-OK plugs are available in two formats:

- connected to form sheets of 50 or 98 plugs
- individual A-OK plugs packaged loose in a carton of 2310 plugs

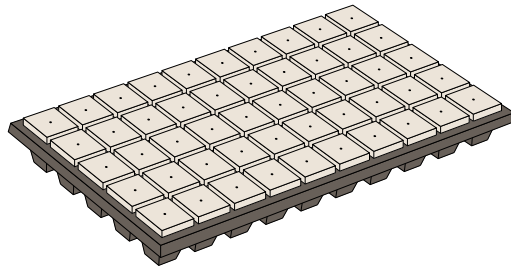
2.3.2 Macro



Macro Plugs are round plugs designed for propagating medicinal plants. The plugs are available with and without a slit.

The plugs come in cartons of 1,750 or 2,000 pieces.

2.3.3 SBS



SBS Plugs are square plugs designed for propagating medicinal plants.


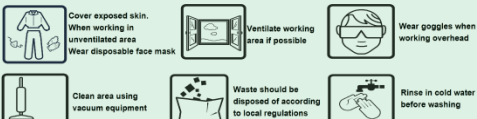

The plugs come in plastic and EPS trays of 50 pieces.

2.4 Product label

The product label contains important information about a delivery of Grodan Plugs. The product label is attached to the packaging of individual pallets and applies to all plugs on the pallet.

If there are any problems during use of the plug, essential data can be recovered using this label. Always retain and store the product label. Make sure that each label can be matched with the plugs it applies to.

The product label contains the following information:

A	293824 (295572)				E
	AO'K PLUGS 1.5"				
B	Length 36 MM	Width 36 MM	Height 40 MM	Pack count 2940 PIECES	F
C	 010000295572\$100000000000		G		
	WITH HOLE, NO WRAP 1,5" X 1,5" X 1,5" Sheet count: 30 Plugs/Sheet: 98				
D					H
	 7 74783 49542 0				

- A Product identification number and name
- B Product dimensions and quantity per pallet
- C ROCKWOOL Logistic Warehouse Management bar code
- D Safety symbols and information
- E Grodan contact information
- F Retrieval code
- G Product description and specifications
- H EAN or UPC-A bar code of the Stock Keeping Unit (SKU)

2.4.1 Retrieval code

The retrieval code on the product label (F) is very important. This eight (8) digit code can be used to identify the product during troubleshooting.

Make a separate note of the retrieval code and a reference to the products it applies to.

2.4.2 Tracing code







The EPS trays of plugs have a code printed on the side. This code can be used to identify the exact moment of production.

3 Safety

This chapter contains the information that is necessary to safely use your Grodan Plugs.

3.1 Safety symbols

The following symbols are shown on the product label:

Symbol	Meaning
	Ventilate closed areas when working with Grodan products if possible.
	Dispose of waste material according to local regulations.
	Cover exposed skin when working with Grodan products. Wear a (disposable) face mask when working with Grodan products in an unventilated area.
	Clean the area using vacuum equipment after working with Grodan products.
	Wear safety glasses when handling Grodan products overhead.
	Rinse your hands in cold water before washing with soap after working with Grodan products.

3.2 Personal protective equipment (PPE)

The mechanical effect of fibres in contact with the skin or eyes may cause temporary irritation. This is why certain personal protective equipment is advised when working with Grodan products.

3.2.1 Eye protection



⚠ CAUTION!

When handling Grodan products overhead, there is an increased risk of stone wool particles falling into your eyes.

- ▶ Wear safety glasses when handling Grodan products overhead.
 - ▶ EN166 standard safety glasses are advised.
-

3.2.2 Skin protection



⚠ CAUTION!

When handling Grodan products, the abrasive effect of fibres can cause temporary irritation, especially on sensitive skin.

- ▶ Cover exposed skin when working with Grodan products.
 - ▶ Wear protective gloves to cover your hands. EN388 standard safety gloves are advised.
 - ▶ If necessary, wear a protective overall to cover any other exposed skin.
-

3.2.3 Respiratory protection



⚠ CAUTION!

Working with Grodan products in an unventilated area, or during operations that can release extra stone wool particles, can cause shortness of breath and irritation to the respiratory system.

- ▶ Wear a (disposable) face mask when working with Grodan products in an unventilated area.
 - ▶ EN 149 FFP1 standard masks are advised.
-

NOTICE

At high temperatures (> 175 °C) the binder will slowly decompose and trace gases will be released over a shorter period. Gases should be vented and appropriate respirators with a separate air supply should be used. These temperatures are usually not found in horticultural applications.

3.3 First aid procedures

As with all products, make sure to refer to the regional safety data sheets or safe use instruction sheets (available on request) and follow all PPE recommendations.

In rare circumstances some people may experience sensitivity or irritation of the throat, lungs, skin, or eyes when working with Grodan products. If irritation does occur, follow the first aid procedures in the table below.

⚠ CAUTION!

In case of irritation of throat or lungs, do not leave the affected person alone.

Irritated area	First-aid procedure
Throat, lungs	<ol style="list-style-type: none">1 Move to a location with fresh air.2 Remain calm. Flush your mouth with water.3 Blow your nose.4 Drink plenty of water afterwards.
Skin	<ol style="list-style-type: none">1 Remove any clothing that came in contact with stone wool fibres.2 Rinse the irritated skin under running water.3 Wash the irritated skin with mild soap and water. Use a washcloth to help remove the stone wool fibres.4 Do not rub or scratch the area.
Eye(s)	<ol style="list-style-type: none">1 Do not rub the affected eye(s).2 If applicable, remove contact lenses.3 Hold the eyelids apart and flush the eyes with plenty of water for at least 15 minutes.

Seek medical attention if symptoms of irritation persist after following the first-aid procedures.

4 Transport and storage

This chapter contains the information that is necessary to safely transport and store your Grodan products.

SAFETY INSTRUCTIONS

Make sure you have read and understood the safety instructions in §3 of this manual.

4.1 Delivery or collection

4.1.1 Delivery by truck

Grodan plugs can be delivered to your facility by truck (where applicable) or picked up at your local hydroponics dealer, either on a standard pallet or in standard cartons.

The customer is responsible for checking the delivery:

- The correct amount of pallets or cartons have been delivered.
- The outside packaging is not damaged.
- A legible product label is present on each pallet or carton.

If shipment is arranged by Grodan, the customer must sign the CMR shipping form. The CMR shipping form is provided by the transport company. Any issues with the delivery must be noted on the CMR shipping form.

4.1.2 Delivery by container

Grodan products that were transported overseas are often delivered by shipping container. Container deliveries require immediate and thorough inspection in order to identify and report potential water damage in time.

Inspect the products and container for the following criteria:

- The outside of the container is undamaged.
- No water is present in the container and the products are completely dry.

NOTICE

If your delivery fails to meet any of these criteria, contact your Grodan Account Manager or Customer Service right away.

4.2 Handling the product on-site

After the products have been delivered, you can transfer them to a storage location or directly to the application area.

NOTICE

Minimise the amount of times the product is transferred to reduce the risk of product damage.

When handling the product:

- 1 Lift a pallet. Use a forklift or pallet truck.

⚠ CAUTION!

- ▶ Do not puncture the products on the pallet with the forks of a forklift truck.
- ▶ Do not stack pallets higher than three (3).

- 2 Transfer the pallet to the desired location.

⚠ CAUTION!

- ▶ Do not drive too fast.
- ▶ Do not transfer the pallets by pushing them across the floor.

4.3 Storing the product on-site

Grodan Plugs must be stored in a location that meets the following requirements:

- Indoor
- Dry
- Ventilated and free of dust
- A flat, level floor without bumps or dents
- No direct sunlight
- No potential sources of contamination:
 - Rodents, insects, birds or other animals
 - Plant protection products or growth hormones
 - Exhaust fumes
 - Dust
 - Frequent human activity

Follow these instructions when storing Grodan products:

- ▶ Store the products on the pallet and in their original packaging, with the product label clearly visible.
- ▶ Transport the pallets to the storage location according to the instructions in §4.2.
- ▶ Do not stack the pallets more than three (3) high to prevent damage.

5 Installation

This chapter contains the information that is necessary to safely prepare your Grodan Plugs for use.

SAFETY INSTRUCTIONS

Make sure you have read and understood the safety instructions in §3 of this manual.

5.1 Removing the packaging

To remove the packaging from your Grodan products:

- 1 Remove the product label from the plastic packaging wrap around the pallet.
- 2 Store the product label in a secure location. The label serves to identify the moment of production and will need to be referenced in any correspondence with Grodan.



Make sure that the label can be matched with the products it applies to (see §2.4).

- 3 Make a separate note of the retrieval code and a reference to the products it applies to.
- 4 Remove a sample of one (1) tray from the pallet and store it together with the product label. These samples may be used as reference material in any correspondence with Grodan.
- 5 Remove the plastic foil from the entire pallet.
- 6 Remove the plastic wrapping which secures the plugs to the pallet during transportation and storage.
- 7 Lift the individual trays, sheets or boxes of plugs off of the pallet.

NOTICE

- *Keep trays and boxes of plugs upright when you remove them from a pallet.*

5.2 Saturating the product

Achieving proper initial saturation of the Grodan Plugs is crucial to the success of the cultivation process. It forms the foundation for root development and growth of the plant. To guarantee successful use of your Grodan Plugs, it is essential that you follow the wetting instructions below.

5.2.1 Preparing the nutrient solution

To saturate the stone wool plugs, prepare a balanced, crop appropriate nutrient solution:

- with an EC level of 1.5 - 3.0 mS/cm EC
- with a pH adjusted to 5.5 - 6.5 pH.
- with a nutrient solution temperature of 68 °F / 20 °C

NOTICE

Ensure that the pH of the nutrient solution is not lower than 5.2. A lower pH used during initial saturation and at any time in the cultivation process will dissolve the stone wool fibres resulting in a loss of structural integrity.

5.2.2 Saturating the plugs

There are two main methods to saturate Grodan plugs: submersion and overhead spray.

Submersion:

- 1 Fill a container with the prepared nutrient solution.
- 2 Place the Grodan plugs into the container and allow to sink or submerge the solution.
- 3 Keep plugs submerged until bubbling stops.
- 4 Remove the plugs from the solution.

Overhead spray:

- 1 Apply the prepared nutrient solution via a watering wand with a coarse spray head or nozzle. Complete several passes of the wet spray until fully saturated.

To check the water absorption in the plugs, weigh several plugs and compare the wet weight after saturation to the chart below.

Description	Sinking time (seconds)	WC advice (g)	WC advice (oz)
A-OK 1.5"	30	57	2
A-OK 2.0"	30	110	3.9
Macro Plug	30	110	5
Mini-Block 1.5"	30	57	2
Mini-Block 2"	30	110	3.9

For more detailed information, please refer to the Grodan Grow Guide for Cannabis available at: www.grodan101.com

5.3 Sowing Seeds or Cloning into a Grodan Plug

Once a Grodan Plug is properly saturated, a seed or vegetative stem cutting can be planted into it.

NOTICE

The instructions in this section only describe the planting activities that are unique to Grodan Plugs. After planting a seed or rooting a healthy vegetative stem cutting into a plug, it will need special care to develop into a mature plant. This care is the responsibility of the propagator.

Different types of Grodan Plugs are designed for specific types of seeds. An overview of the different plug types can be found in §2.3 of this manual.

5.3.1 Sowing seeds

Seeds can be sown manually or automatically. Whichever method is chosen, ensure that:

- The seed is positioned in the centre of the seed hole of the plug.
- The seed is located at the bottom of the seed hole of the plug.

5.3.2 Vegetative stem cuttings

Vegetative stem cuttings can be sown manually:

- 1 Use a 4 - 6 inch stem cutting from a healthy plant in the vegetative stage.
- 2 Position the cut end of the stem in the center of the plug and insert the stem about half of the depth of the saturated plug.

It is recommended to follow the detailed instructions using the Propagation Technical Bulletin available on the Grodan websites or from your Account Manager.

6 Troubleshooting

This chapter contains the information that is necessary to identify and solve challenges that may be experienced when working with Grodan Plugs.

6.1 Common challenges

The most common challenges that may be experienced when working with Grodan Plugs are listed in this section.

NOTICE

- *This section only describes challenges that are directly related to the design and function of Grodan products.*
- *If you experience a problem with your Grodan product that is not described in this section, please contact your Grodan Account Manager or the Grodan Customer Service (see §1.4).*

Use the following table to identify the cause of the challenge and follow the instructions to resolve it:

Challenge	Cause	Solution
The product does not reach the correct WC.	The saturation process was not performed correctly.	Check if you have followed the steps in §5.2 of this manual correctly.
		Perform the sinking test described in §6.2.
The seed or vegetative stem cutting does not develop after planting it in a plug.	The saturation process was not performed correctly.	Follow the instructions in §5.2 of this manual.
	The nutrient solution was not prepared correctly.	
	The seed or vegetative stem cutting was not planted correctly.	Follow the instructions in §5.3 of this manual.
The product is damaged.	The product has been transported or stored incorrectly.	Do not use a damaged or contaminated product. For future transport:
The product is contaminated.		<ul style="list-style-type: none">► If the product was damaged after delivery from a dealer or a hydroponics store, please contact the company whom you purchased the products from.► If the product was damaged after delivery to your facility, follow the instructions in §4 to prevent damage during storage or transport.

6.2 Performing a sinking test

The sinking test is used to check the water uptake speed. Perform the test as follows:

- 1 Prepare a testing container:
 - Sized at least 200 × 200 × 200 mm.
 - Filled with clean tap-water of 20 °C (±1 °C).
- 2 Remove all attached paper and foil from the plug.
- 3 Have a timer (accuracy 1 s) ready to start.
- 4 Carefully place the plug in standard orientation in the middle of the water surface, and start a timer as soon as the plug touches the water.
 - If the plug touches the side of the tank at some point during the test, the test results are invalid. Redo the test with a new sample.
- 5 Stop the timer as soon as the plug is fully submerged. The time shown on the timer is the sinking time.

When performing multiple tests, make sure the water does not get contaminated.

6.3 Complaints procedure

When an issue occurs when working with Grodan Plugs that may be related to transportation, delivery, and/or the material or production quality of the plug, we advise you to follow the official complaint procedure. This procedure allows Grodan to resolve the issue as quickly as possible.

To submit a complaint to Grodan, follow this procedure:

- 1 Collect the following information:
 - The retrieval code that was printed on the product label (see §2.4).
 - The tracing code that is printed on the side of the tray (see §2.4.2).
 - A detailed description of the problem you are experiencing.
 - Photos or videos that help describe the problem.
- 2 If the problem is related to plant growth:
 - Collect 0.5 – 1 litre of nutrient solution from both affected and unaffected products. Store the liquid in a cool, dark place.
 - Collect a sample of at least 20 affected plugs to show to your Grodan Account Manager, Grodan Business Support expert or dealer.
 - Collect a sample of at least 20 unaffected plugs.
- 3 Immediately report the problem to your Grodan Account Manager or to a local representative of the Grodan Customer Service.
- 4 Together with your Grodan contact, decide on the best way to address the problem in order to minimize any direct and consequential loss.

NOTICE

A Grodan Account Manager or Grodan Customer Service representative will collect relevant information to the complaint handling. To identify the cause of the problem, it is important for the Grodan employee to have access to the location where the Grodan Plug is used.

7 End of Growing Cycle

This chapter contains the information that is necessary to safely decommission and prepare your Grodan products for recycling or disposal.

SAFETY INSTRUCTIONS

Make sure you have read and understood the safety instructions in §3 of this manual.

7.1 Confirm proper classification

- 1 Confirm with your local and proper regulatory body overseeing legal cannabis cultivation that growing media is not considered cannabis waste.
- 2 Confirm with the local waste authority that Grodan products are categorized as non-hazardous solid waste.

Always follow local rules and regulations when disposing of Grodan products.

7.2 Recycling Grodan products

Grodan products have a number of value added applications where the material can be used and recycled at the end of the growing cycle. Examples of some of these applications are listed below.

- Compost
- Potting Mix
- Strengthening additive for brick clay
- Use in re-cultivation
- Industrial bedding
- Re-processed into new stone wool

Reach out to local waste haulers and agricultural or organic recycling operators to determine best recycling option available in your area. For more information, please visit: www.grodan101.com/about-grodan/recycling-solutions/

NOTICE

The available recycling applications may vary depending on your country or region.

The organizations listed are independently operated service providers. Grodan does not guarantee recycling availability nor quality of service. It is up to the grower to determine and or negotiate the relationship with potential recycling operators.

7.2.1 Managing the WC

To reduce the recycling or disposal costs, leave your Grodan products to dry after decommissioning.

7.2.2 Self processing

Some recycling operators may require additional processing for the Grodan products to be recycled at their facilities. Additional processing includes removing foreign materials and or de-sleeving.

- 1 Remove any foreign materials from the stone wool, for example:
 - Plastic clips
 - Wood
 - Metal
 - Stone
 - Twine
- 2 Dispose of each foreign material in the corresponding waste stream.
- 3 Collect the stone wool in a container.

7.2.3 Transporting to a recycling or disposal facility

Once prepared for recycling, Grodan products should be collected and stored in a separate container.

If sending the used Grodan products to a disposal facility, follow all non-hazardous solid waste guidelines. Grodan products can be collected and disposed of with other non-hazardous solid waste materials as permitted by local regulations.

NOTICE

Always follow local rules and regulations when recycling or disposing of Grodan products.

Only use registered haulers with your local municipality that are legally authorized to handle non-hazardous solid waste or recycling materials. Confirm with your municipal board if you have any questions.

In some markets, consumers have the option to self-haul materials to a recycling facility and/or a disposal site. If this is a desirable option, confirm with your municipal board before proceeding.

North America

Grodan (ROXUL Inc.)
8024 Esquesing Line
Milton ON
L9T 6W3
Canada

☎ +1 800 872 2476 (toll free)

☎ +1 905 636 0611

🏠 +1 905 636 1901

✉ info@grodan101.com

🌐 www.grodan101.com

Europe

ROCKWOOL B.V. / Grodan
Industrieweg 15
P.O. Box 1160
6040 KD Roermond
The Netherlands

☎ +31 47 53 53 535

🏠 +31 47 53 53 716

✉ info@grodan.com

🌐 www.grodan.com



Part of ROCKWOOL Group