GROWER'S CHOICE PLANT GUARD

Grower's Essential Reference Guide

How to Use It. How to Store It. How to Get Results.

---

1. What Plant Guard Actually Is

Grower's Choice Plant Guard is our proprietary potassium-based hypochlorous acid formula for plants — produced fresh every weekday and shipped the same day it is made.

HOCl is not a conventional chemical. It penetrates pathogen cell walls, oxidizes the pathogens it contacts on the surface, and breaks down into a trace of water and salt. Nothing harmful stays behind — on your plant, in your product, or in your soil.

- **No pre-harvest interval:** safe to apply the day of harvest
- **No residue:** won't affect terpene expression or show in lab tests
- **No resistance buildup:** pathogens cannot adapt to oxidative action
- **No PPE required:** safe to handle without protective equipment
- **Organic compliant:** USDA National Organic Program, 7 CFR §205.601

Important: neem oil, sulfur, and essential oil sprays work by coating plant surfaces. Trichomes live on those surfaces, and those coatings physically damage trichome structure — degrading the terpenes your plants produce. Plant Guard oxidizes on contact and leaves nothing behind. Your trichomes are not touched.

---

2. Active Outbreak? Start Here — Test, Treat, Then Work Up

This is the most important section in this guide. Read it before you look at any dilution numbers.

Every grow is different. Room temperature, light intensity, humidity, airflow, and plant stage all affect how your plants respond. The growers who get the best results follow one simple rule: **start diluted, test first, and work up only as needed.**

ACTIVE OUTBREAK PROTOCOL — FOUR STEPS, IN ORDER

Step 1 — Test first. Mix 16 oz per gallon (8:1). Spray a few leaves on one plant, wait 24 hours, and check your plants. If everything looks good, move to Step 2.

Step 2 — Treat at the outbreak rate. Apply 16 oz per gallon (8:1) daily to affected plants. Most outbreaks respond at this rate when applied consistently.

Step 3 — Step up only if needed. If you're not seeing improvement after several consistent daily applications, increase strength gradually — for example, to about 21 oz per gallon (6:1). Test again at each step before treating the whole plant.

Step 4 — Full strength for spot treatment only. For stubborn areas, full strength can be applied directly to the affected spots, such as patches of powdery mildew or mold. Full strength is not an all-over spray. Work up to it rather than starting there.

Once it's clearing: Step back down to 8:1 until the problem is completely gone, then return to the prevention rate of 8 oz per gallon (16:1) twice weekly to keep it from coming back.

Best Practices for Every Application

- **Spray when it's cooler.** Apply at lights-off indoors, or early morning or evening outdoors. Avoid spraying under intense grow lights, in direct midday sun, or in high heat.
- **Keep air moving.** Good airflow helps leaves dry evenly after application.
- **Cover thoroughly.** Spray the tops and undersides of leaves, where problems often start.
- **Test whenever conditions change.** A new strain, a new room, higher temperatures, or brighter lights all call for a quick test spot first.
- **Stay consistent.** Daily application during an outbreak matters more than strength. One heavy spray does less than steady, repeated treatment.

> **PLANT GUARD WORKS BEST AS PART OF A SYSTEM**
>
> No spray can make up for a room that is too humid, too crowded, or poorly ventilated. Pair Plant Guard with the good growing practices in Section 6 — that combination is what keeps a grow clean.

---

3. Complete Dilution Reference

All rates below are sourced directly from the Plant Guard application guidelines. Every rate assumes fresh product stored properly. See Section 4 for storage rules. **Always test a small area before treating your whole garden.**

Situation	Plant Guard	Water	Ratio	When / How Often
Active Outbreak — Treatment	16 oz (2 cups)	1 gallon	**8:1**	Test first, then apply daily until clearing. Return to prevention rate once resolved.
Active Outbreak — Step Up	~21 oz	1 gallon	**6:1**	Only if 8:1 isn't showing improvement. Test again before full application.
Spot Treatment — Stubborn Areas	**Full Strength**	None	**Undiluted**	Applied directly to affected spots only — never as an all-over spray. Work up to it.
Foliar Prevention — Healthy Plants	8 oz (1 cup)	1 gallon	**16:1**	Twice weekly on plants with no active outbreak
Bud Wash	8 oz (1 cup)	1 gallon	**16:1**	Shake off excess water gently. Hang immediately in high airflow and controlled humidity.
Seed Wash — 25 PPM	6.4 oz	1 gallon	**20:1**	Rinse seeds in the solution for no longer than 30 seconds to a minute to increase germination rate
Tools, Equipment, Surfaces & Tents	32 oz (1 quart)	1 gallon	**4:1**	Daily — scissors, trimmers, benches, walls, tents, trays, pots. Air dry, no rinse needed.
Irrigation Lines & Water Systems	1 oz	1 gallon	**128:1**	Ongoing — helps prevent biofilm and keeps lines clear

USE IT ACROSS YOUR WHOLE OPERATION — EVERY DAY

Most growers use it only for powdery mildew. The ones who get the most out of it use it on everything they touch — tools, tents, surfaces, irrigation lines, hands and gloves, and foliar spray every cycle, every week.

The cleaner your environment, the less you will ever need to treat an active outbreak.

---

4. How to Store and Handle Your Product

Plant Guard is a live, active formula. HOCl is a gas in liquid form — it off-gasses over time. How you store it determines how well it works when you need it.

Shelf Life & Potency — Grower's Choice Plant Guard

- **12 months from production date**, if stored properly (cool, shaded, sealed).
- **First 90 days after opening:** use standard dilution rates.
- **After 90 days:** potency gradually declines, so use a little less water when diluting. Test a small area first whenever you adjust your mix.

Storage: Cool, Dark, Sealed

- Seal the cap tightly after every single use — HOCl off-gasses through a loose lid
- Keep away from heat and direct sunlight — both degrade the formula
- Store in the original container — it is designed for this product
- Do not store in a hot vehicle, in the sun, or in an uncontrolled environment

Mixed Solution: Best Used Fresh

Once you dilute Plant Guard, the clock moves fast. HOCl off-gasses immediately from a diluted solution — especially in a warm environment or a loosely sealed sprayer.

MIX ONLY WHAT YOU WILL USE TODAY

Best practice: mix fresh, use it that day. Avoid leaving diluted solution in an open or loosely capped sprayer.

The sealed original bottle stays stable for 12 months — it's the diluted mix that fades faster.

Reusing yesterday's mix anyway? Boost it with a splash of full-strength Grower's Choice Plant Guard to bring the potency back up.

---

5. Clean Everything You Touch

Pathogens don't just live on plants. They ride on your hands, your scissors, your tent walls, your trays, and your water. Every surface a plant touches — and everything you touch before you touch a plant — is a path for problems to travel. Plant Guard is an outstanding cleaner for all of it.

Foliar Spray on Plants

From vegetative stage through harvest day. Follow the outbreak protocol in Section 2 when you have a problem. Use the 16:1 prevention rate twice weekly on healthy plants. Safe to apply through harvest — no residue, no pre-harvest interval.

Hands and Gloves

Your hands move from plant to plant all day. Rinse hands and gloves with Plant Guard before you start, between plants, and especially after handling a plant with a problem. It's gentle enough to handle without protective equipment.

Tools and Scissors

Clean between every plant and every cut. Hop Latent Viroid (HLVd) spreads through contaminated cutting tools and has no cure. Use the 4:1 rate (32 oz per gallon), apply to tools, and air dry. No rinsing needed.

Tents, Surfaces, and Grow Rooms

Tent walls, benches, floors, trays, pots, propagation domes — anywhere spores can survive between cycles. Wipe down daily during a run and deep clean between every cycle at the 4:1 rate. Spores do not need much to establish.

Irrigation Lines and Reservoirs

Biofilm in water lines and algae in reservoirs are pathogen highways into your root zone. Use the 128:1 rate (1 oz per gallon) in your water supply on an ongoing basis to keep lines clear.

HVAC, Fans, and Humidifiers

Your air system circulates whatever is living in it throughout your entire grow. Clean humidifier reservoirs, fan blades, and HVAC surfaces to stop airborne contamination at the source.

Bud Wash

Use Plant Guard as part of a post-harvest wash. It removes surface contaminants before drying, breaks down completely, and leaves nothing behind on the plant material.

Seed Wash

To increase the germination rate when growing from seed, dilute Plant Guard 20:1 with water and rinse seeds in the solution. No longer than 30 seconds to a minute is necessary.

---

6. Good Growing Practices — Plant Guard Can't Do It Alone

Plant Guard is a powerful tool, but it's one part of a system. The growers with the cleanest, most productive gardens do all the fundamentals, every day. If your environment is working against you, no spray will keep up.

Control Humidity

High humidity is the number one driver of powdery mildew and mold. Keep relative humidity in a moderate range — roughly 40–60% for most of the grow, and on the lower end in late flower when buds are dense. Use a dehumidifier if your space runs humid, and don't leave standing water in trays or on the floor.

Ventilate and Keep Air Moving

Stagnant air traps moisture around leaves and buds. Exchange air in your tent or room regularly with an exhaust fan, and run oscillating fans so air moves over, under, and through the canopy — not just across the top.

Manage Your Lighting and Temperature

Keep lights at the manufacturer's recommended distance and avoid heat buildup at the canopy. Watch for large temperature swings between lights-on and lights-off — that's when condensation forms and humidity spikes.

Give Plants Room

Crowded plants create a humid microclimate where problems spread from leaf to leaf. Space plants so air can move around each one, and keep leaves from different plants from touching.

Prune and Open the Canopy

Remove lower growth and crowded inner leaves that don't get light. An open canopy dries faster, gets better light penetration, and lets your spray reach where problems start.

> **FIND A PROBLEM? ISOLATE IT AND TRIM IT**
>
> **Separate it.** Move any plant with an issue away from healthy plants right away so spores don't drift to the rest of your garden.
>
> **Trim it.** Carefully cut away affected leaves and material, bag it, and remove it from the grow space. Clean your scissors and hands before touching another plant.
>
> **Then treat it.** Follow the outbreak protocol in Section 2 on what remains. Removing affected material first always gets better results than spraying alone.

Inspect Every Day

Look at your plants daily — tops and undersides of leaves, inside the canopy, and around bud sites. Problems caught early are far easier to handle than problems caught late.

Quarantine New Plants

New clones and plants can carry problems in with them. Keep new arrivals separate for a period of time and inspect them before they join your garden.

Keep the Space Clean

Pick up fallen leaves and plant debris, keep floors clean, and limit traffic in and out of your grow. Change clothes or wear clean ones if you've been outside or around other gardens.

---

7. If It Is Not Working — Check These First

1. **Your environment is working against you.** High humidity, poor airflow, and crowded plants will keep bringing problems back. Review Section 6.
2. **Affected material wasn't removed.** Isolate the plant and trim away affected leaves before treating. Spraying alone does less.
3. **You applied it inconsistently.** Outbreaks need daily application. Skipping days gives the problem room to come back.
4. **You haven't stepped up gradually.** If 8:1 isn't showing improvement after several consistent daily applications, step up to 6:1, test, and use full strength as a spot treatment on stubborn areas only.
5. **The bottle has been open for more than 90 days.** Restock with fresh product, or use a little less water when diluting.
6. **You stored the mixed solution overnight.** Diluted product loses potency fast in warm conditions. Mix fresh every application, or boost it with a splash of full-strength Grower's Choice Plant Guard.
7. **The bottle was stored in heat or sunlight.** Heat and UV degrade HOCl before you ever open it. Store cool, dark, and sealed.
8. **You only treated the plants.** Tools, hands, tents, and water lines carry problems back in. Clean everything you touch (Section 5).

---

8. Quick Reference

- **Always:** Test a small area first. Spray when it's cooler — never under intense light or high heat.
- **Active outbreak:** 16 oz per gallon (8:1). Daily until clearing.
- **Not improving:** Step up to ~21 oz per gallon (6:1). Test again first.
- **Stubborn areas:** Full strength as a spot treatment only. Never an all-over spray.
- **Problem plant:** Isolate it, trim affected material, then treat.
- **Prevention on healthy plants:** 8 oz per gallon (16:1). Twice weekly.
- **Tools, equipment, tents, surfaces:** 32 oz per gallon (4:1). Daily. Air dry, no rinse.
- **Irrigation and water systems:** 1 oz per gallon (128:1). Ongoing.
- **Through harvest and bud wash:** 8 oz per gallon (16:1).
- **Seed wash:** 6.4 oz per gallon (20:1). Rinse seeds 30 seconds to 1 minute to boost germination.
- **Environment:** Humidity roughly 40–60%, constant airflow, room between plants.
- **Bottle open over 90 days:** Use a little less water when diluting, or restock fresh.
- **Mixed solution left overnight:** Boost with a splash of full-strength product, or mix fresh.

Grower's Choice Plant Guard

growerschoiceplantguard.com | info@gcplantguard.com | (913) 423-3535

9216 Bond St., Overland Park, KS 66214

Produced fresh every weekday. Shipped same day.

Safety Data Sheet

SECTION I: PRODUCT AND COMPANY IDENTIFICATION

Product Name	Growers Choice Plant Guard	
Product Description	Electrochemically activated solution of potassium chloride (0.9% or less)	
CAS#:	7790-92-3	
Manufacturer:	Danolyte Global 9216 Bond Overland Park, KS 66214	
Phone number:	913-489-7600 **For product sales information call:**	913-489-7600
For Information of health risks call:	913-489-7600 **24-hour emergency information call:**	913-489-7600

Section II: HAZARDS IDENTIFICATION



Growers Choice Plant Guard is not classified as hazardous for environment disinfectant use.
HMIS Hazard Rating: Health = 0 Flammability= 0 Physical = 0 Reactivity= 0
Legend: 0 = Minimal Hazard 1 = Slight Hazard 2 = Moderate Hazard 3 = Serious Hazard 4 = Severe Hazard

---

SECTION III: COMPOSITION AND INFORMATION ON INGREDIENTS

Component(s)	CAS#	% weight
Water	None	≥ 99%
Hypochlorous acid	7790-92-3	≤ 0.05%

The Product contains no hazardous components. The Product contains 500± ppm Free Available Chlorine (FAC).

SECTION IV: FIRST AID MEASURES

Under normal use conditions the likelihood of any adverse health effect is low.
Inhalation: If breathing problems develop, move away from Product and into fresh air.
Skin Contact: If any irritation occurs, wash affected area with water.
Eye Contact: If irritation occurs, flush eyes with water.
Ingestion: Drink an 8 oz. glass full of water.
Exposure Limits: No exposure limits established for the Product by ACGIH or OSHA.
Medical conditions generally recognized as being aggravated by exposure to Product: NA
Primary route(s) of exposure: Inhalation of Product vapors or fumes is the most common route of exposure in occupational settings.

SECTION V: FIREFIGHTING MEASURES

Not flammable or explosive. If necessary, use fire extinguishing methods suitable to surrounding conditions

---

SECTION VI: ACCIDENTAL RELEASE MEASURES

Personal Precautions: No personal protective equipment is required under normal conditions. The following suggestions should be considered in case of accidental chlorine release due to acidification.
Ventilation: Open air or good room ventilation is adequate for the safe use of the Product. Avoid breathing any vapors or fumes resulting from acid ventilation.
Respiratory Protection: In accordance with OSHA regulations (29 CFR 1910.134 and 29 CFR 1910.1000) fogging or spraying applications may require worker respiratory protection, such as (1) NIOSH/MSHA approved air-purifying respirators, or (2) NIOSH/MSHA approved canister/cartridge facial respirators for chlorine/acid vapors.
Eye Protection: Although Product is designed to be safe for eyes, good manufacturing and laboratory practices recommend the use of chemical safety goggles for all applications involving chemical handling.
Protective Clothing: Although Product is designed to be safe for skin, good manufacturing and laboratory practice recommend that, at a minimum, rubber, neoprene, or other chemically impervious gloves be worn for all applications involving chemical handling.
Environmental Precautions: Product is ≤0.9% potassium chloride (salt) solution and ≤0.05% available chlorine. Some localities allow such concentrations to be sent to open storm sewers; however local environmental regulatory requirements should be followed. If desired, spills can be washed to sewer with plenty of water or neutralized using sodium sulfite or sodium thiosulfate.

SECTION VII: HANDLING AND STORAGE

Precautions and Conditions for Safe Handling: No special requirements are necessary. Store according to package directions.

SECTION VIII: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Open air ventilation is adequate safe use of the Product. Avoid breathing vapors or fumes resulting from acid ventilation. Personal Protective Equipment: No personal protective equipment is required under normal conditions.

SECTION IX: PHYSICAL & CHEMICAL PROPERTIES

Physical state:	Liquid Chemical Chlorine odor depending on
Odor:	strength of the solution
Solubility in water:	Completely soluble
PH-values:	6.5-7.5
Melting-point:	NA
Boiling-point:	100° C
Flash Point (°C)	None (Non-Flammable)
Explosive:	N/A
Density:	8.34 lbs./gal
Vapor pressure:	App. 2,330 Pa
Vapor Density (Air=1):	ND
Specific Gravity (H2O=1):	1.0-1.06 g/ml
Evaporation Rate:	Comparable to water

Safety Data Sheet

SECTION X: STABILITY AND REACTIVITY
Stability: Loses its level of available chlorine at high temperatures and when exposed to direct sunlight.
Conditions to Avoid: Avoid accidental or uncontrolled contact of Product with acids and hydrogen peroxide.
Hazardous Decomposition Products: None.
Hazardous Polymerization: Will not occur.

SECTION XI: TOXICOLOGICAL INFORMATION
Developmental/Reproductive Toxicity: No conclusion has been made based on human and animal studies.
Carcinogenicity: No conclusion on the carcinogenicity of chlorine has been made based on the limited information available from human and animal studies. Neither the Product nor any of its constituents are listed in the latest NTP Annual Report on Carcinogens or has been found to be a potential carcinogen in the latest IARC Monograph or by OSHA.
Cytogenecity: Product does not possess cytogenetic activity, based on chromosome induction tests in the bone marrow cells of mice.
Toxicity and exposure limits to Chlorine:
TLV/TWA: 1 ppm (3 mg/cubic meter) Acute Oral LD_{50} in rats g/kg 0.73
TLV/STEL: 3 ppm (9 mg/cubic meter) Dermal LD_{50} in rats g/kg 1.26 - 2.0

SECTION XII: ECOLOGICAL INFORMATION
Environmental data: Destroys bacteria, viruses, spores and algae
Degradability: Fully Biodegradable.
Bio-accumulation: None
Mobility: None
Product does not present adverse effects to the environment.

SECTION XIII: DISPOSAL CONSIDERATIONS
Packaging can be disposed of as local laws permit for a non-hazardous material.

SECTION XIV: TRANSPORT INFORMATION
OSHA Label: Not dangerous good. No label required.
DOT Proper Shipping Name, Hazard Class, UN/NA Number Packing Group, RQ: Not DOT Regulated. No DOT label required.
IATA: Not dangerous good. No IATA label required
IMDG: Not dangerous good. No IMDG label required

SECTION XV: REGULATORY INFORMATION
TSCA No: All chemicals in this Product are listed on the EPA TSCA Inventory list.
CERCLA/SARA: This Product has been reviewed according to the EPA "Hazard Categories" promulgated under Section 311 and 312 of SARA. It does not fall in any listed category and poses no risk of immediate (acute) health hazard, delayed (chronic) health hazard, fire hazard, or sudden release of pressure and is not reactive (see 29 CFR § 1910.1200).
OSHA Hazard Communication Standard: Product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Clean Air Act: NA.

SECTION XVI: OTHER INFORMATION
This Safety Data Sheet (SDS) was prepared in accordance with the provisions and requirements of 29 CFR § 1910.1200(g) and discloses the physical and health hazards of all hazardous chemicals contained in the Product described in this SDS, but unless otherwise noted, does NOT describe or disclose ALL of the chemicals/components in the Product, some of which may be Trade Secrets.
The information included in this SDS is based on data developed or compiled by Danolyte Global, Inc. (DG) from open literature, independent laboratory studies, and other available scientific evidence and is believed to be accurate and complete, but DG makes no warranty with respect thereto. Neither does DG make any representation or warranty, express or implied, with respect to the Product or its suitability for any purpose or use, hereby disclaiming all such warranties, including the implied warranties of merchantability and fitness for a particular purpose and the implied warranty that the Product is free of claims of third persons by way of infringement or the like. Anyone intending to use the Product described in this SDS should satisfy himself that the Product (1) is suitable for their purposes and intended uses, and (2) meets any safety and health standards applicable thereto. It is the obligation of each user of the Product described in this SDS to determine and comply with the requirements of all statutes - local, state and federal - applicable to its use, storage and disposal.

SECTION XVII: SYMBOLS/ABBREVIATIONS

ACGIH = American Conference of Governmental Industrial Hygienists	ND = Not Determined
ASTMI = American Society for Testing and Materials International	NFPA = National Fire Protection Association
CAS # = Chemical Abstracts Service Register number	NTP = National Toxicology Program
CERCLA = Comprehensive Environmental Response Compensation and Liability Act CL= Ceiling Limit	OSHA= Occupational Safety and Health Administration
	TWA = Time Weighted Average
	PMCC = Pensky - Martens Closed Cup Flash Point Determination
HMIS = Hazardous Materials Identification System	SARA= Superfund Amendment and Reauthorization Act of 1986
IARC = International Agency for Research on Cancer	STEL = Short Term Exposure Limit
IATA: International Air Transport Association	TCC = Tagliabue Closed Cup flash point determination
NIOSH = National Institute for Occupational Safety and Health	TLV = Threshold Limit Value
Hygienists NA= No Applicable Information	TWA= Time Weighted Average, 8 hours

Additional Information/Comments
Growers Choice Plant Guard was designed to be a less hazardous product than others currently in use.

Preparation Date (or latest revision): October 14, 2026