

CANNABIS FERTIGATION ZONE

Job Safety Analysis (JSA)

WHO GACP, EU-GACP, and OSHA Compliance Guidelines

1. FERTIGATION MATERIAL HANDLING SAFETY:

•Ergonomic Lifting Mechanics:

Personnel must execute proper lifting protocols when handling 25-lb bulk nutrient or fertilizer bags (p. 1). Static or awkward postures during material handling are strictly prohibited to mitigate acute lumbar injuries (p. 1).

•Chemical Segregation Boundaries:

Dry fertilizer compounds and concentrated plant nutrition stocks must be structurally isolated from cleaning solutions, sanitizers, and incompatible chemical inputs in accordance with Safety Data Sheets (SDS) to prevent accidental combustion or toxic off-gassing (p. 1).

•Transitional Scoop Controls:

Technicians must utilize dedicated, non-reactive material scoops for transferring chemical ingredients (p. 1). Cross-contaminating scooping tools between different active stock tanks is forbidden to eliminate chemical reaction vectors (p. 1).

2. MECHANIZED MIXING & SHARP TOOL MATRICES:

• Pre-Use Equipment Verification:

Before activating any hand drills, mixing augers, sharp slicing blades, or dosing hardware, operators must execute a formal pre-use cleaning and mechanical safety inspection (p. 1).

• Mechanical Pinch Isolation:

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Personnel must maintain strict spatial clearance boundaries and keep extremities clear of active motorized auger rotation paths or processing machinery pinch zones to eliminate severe laceration risks (p. 2).

- **Permit & Competency Verification:** Only authorized operators who are verified as fully competent and hold active facility tool safety logs may operate heavy fertigation equipment or handle chemical concentrates (p. 2).

INCIDENT EMERGENCY RESPONSE PLAN:

- **Spill Kit Readiness Protocols:**

Approved hazardous material chemical spill kits containing absorbent pillows and barrier socks must be fully accessible within the fertigation zone (p. 2). Any containment failure or solution overflow must trigger instant absorption loops (p. 2).

- **Secondary Label Permanence:**

Quality control must verify that all secondary transfer containers, distribution lines, and diluted sanitizing reservoirs are clearly, properly, and permanently labeled with the accurate chemical name and corresponding hazard icons (p. 2).

- **Concentration Calculation Limits:**

Personnel must measure, dilute, and mix all cleaning solutions and sanitation inputs strictly in accordance with approved master manufacturing formulas to avoid surface corrosion or respiratory chemical burn hazards (p. 2).

[COMPANY LOGO]	DOC No.	Form No.	Form Revision:	Form Issued Date:
	JSA Revision No.	Assessment Date:	Review Date:	<input type="checkbox"/> New <input type="checkbox"/> Revision <input type="checkbox"/> Annual Review

Cannabis Cultivation - Job Safety Analysis Template (JSA)

Area/Phase	<input checked="" type="checkbox"/> Fertigation
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Task:	WORKING IN THE FERTIGATION/SANITATION ROOM	[COMPANY] Sites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Examine each step carefully to find and identify hazards or potential dangers that could lead to injury, illness or damage. Consider the following:

Chemical Hazard	Inhalation, Skin Contact, Absorption, Injection, Eye Contact, or Ingestion of Chemicals and Gases such as: Pesticides, Fertilizer, Cleaning and Disinfectants Solutions, Carbon Monoxide/Dioxide, or Volatile Organic Compounds				
Biological Hazard	Bloodborne Pathogens, Mold, Plant, Insect, Animal, Sensitizer, Allergens				
Physical Hazards	Electrical, Fire, Explosion, Noise, Thermal Stress, Pinch Point, Cuts, Slips/Falls				
Ergonomic Hazards	Repetition, Awkward Posture, Contact Stress, Vibration, Lifting and Material Handling, Tight Spaces				
PPE Requirement (Additional to Scrubs)	<input checked="" type="checkbox"/> Face shield	<input checked="" type="checkbox"/> Chemical resistant gloves	<input type="checkbox"/> Leather gloves	<input type="checkbox"/> Hearing protection	
	<input checked="" type="checkbox"/> Chemical goggles	<input checked="" type="checkbox"/> Chemical protective clothing	<input type="checkbox"/> Cut resistant gloves	<input type="checkbox"/> Arm protection	
	<input type="checkbox"/> Goggles	<input type="checkbox"/> Rubber boots	<input type="checkbox"/> Fall protection	<input checked="" type="checkbox"/> Respiratory protection	
	<input checked="" type="checkbox"/> Safety Glasses	<input type="checkbox"/> CO Monitor	<input type="checkbox"/> Other – Disposable latex gloves		
Tools and Equipment	<input type="checkbox"/> Pre-use inspection complete (Cleaning of Tools)		<input checked="" type="checkbox"/> Trained in use of tool/equipment		
	<input checked="" type="checkbox"/> List tools/equipment being used: Auger for mixing, hand drill, scissors, sharp blades, dosing system, fertigation equipment				
Required Permits	<input type="checkbox"/> Sprayer	<input type="checkbox"/> Confined Space Entry	<input checked="" type="checkbox"/> WHMIS	<input checked="" type="checkbox"/> SWPs	<input type="checkbox"/> N/A
SWPs:	<input type="checkbox"/> [DOC NUMBER] Working with Sharp Blades in Manual and Power Tools		<input checked="" type="checkbox"/> [DOCUMENT NUMBER] Usage, Storage and Emergency Response of Pesticides		
	<input type="checkbox"/> [DOC NUMBER] Cleaning of Equipment Tools and Supplies		<input checked="" type="checkbox"/> [DOC NUMBER] Emergency Response Plan		
	<input checked="" type="checkbox"/> [DOCUMENT NUMBER] Gowning and Personal Hygiene		<input checked="" type="checkbox"/> [DOCUMENT NUMBER] Handling and Storage of Chemicals		
	<input checked="" type="checkbox"/> [DOCUMENT NUMBER] Cleaning Solution Preparation				

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Site Control	<input checked="" type="checkbox"/> Post signs (Hygiene)	<input type="checkbox"/> Designated area for equipment and tools	<input type="checkbox"/> Established meet and greet process
	<input type="checkbox"/> Caution tape	<input checked="" type="checkbox"/> SDS	<input checked="" type="checkbox"/> Other: Spill Kit; Danger Zone Warning; Authorized Personnel Only
List of SDS to be reviewed	<input type="checkbox"/> Bleach; Isopropyl Alcohol; Peracetic acid (PAA) <input checked="" type="checkbox"/> Others: Fertilizer, Nutrients <input type="checkbox"/> N/A		
Environmental Conditions	<input type="checkbox"/> Climate controlled rooms	<input type="checkbox"/> Heat as per plant phases	<input type="checkbox"/> Excessive noise <input type="checkbox"/> Excessive Lighting <input type="checkbox"/> Other

Step #	Sequence of Basic Steps	Existing or Potential Hazard (s)	Hazard		Health Hazard				Current Hazard Control	Hazard Control Recommended				Safety Hazard				Recommended Additional Hazard Control	
			Health	Safety	R	C	O	PR		EC	ADM	PPE	Other	R	C	O	PR		
1	Receiving and storing raw bulk fertilizers, nutrients, and inputs.	• Environmental substrate contamination via run-off.		X	3	2	1	6	Personnel are trained on how to use the Spill kit		X				3	1	1	3	Annual spill response drills
		• Accidental combustion or toxic off-gassing.	X	X	3	3	1	9	Fertilizer is segregated from chemicals, and store as per Manufacturing /SDS instructions	X					3	2	1	6	Deploy secondary containment pallets beneath all liquid concentrate drums and establish a mandated monthly spill kit inventory verification log.
2	Manually moving and lifting bulk 25-lb raw material bags.	• Acute spinal compression/lumbar strains.	X	X	2	2	2	8	Proper lifting protocol		X				2	1	2	4	Implement mandatory team-lift protocols for any loads handled awkwardly, and deploy low-profile rolling platform dollies for all floor transits

CAUTION

FERTIGATION ZONE JOB SAFETY (JSA)

WHO GACP and EU/US FDA cGMP Guidelines

PART 2: Personal Protection & Mechanical Controls

MECHANICAL TOOL CONTROLS:

- **Pre-Use Inspection:** Verify hand drills, mixing augers, and blades are clean before use.
- **Pinch Isolation:** Keep hands clear of active tank auger lines, and brace for sudden high-torque drill kickbacks.
- **Competent Use:** Only certified operators holding active permits may manage systems.

BARRETT EQUIPMENT MANDATES:

- **Ocular Protection:** Goggles and face shields are mandatory during chemical pouring.
- **Dermal Shielding:** Wear fluid-proof aprons and elbow-length chemical gloves.
- **Respiratory Seal:** Equip half-face respirators with active organic vapor/P100 cartridges to counter toxic vapors.



CAUTION

FERTIGATION ZONE JOB SAFETY (JSA)

WHO GACP and EU/US FDA cGMP Guidelines

PART 1: Administrative and Handling Controls

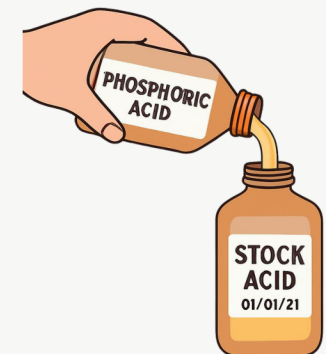
MATERIAL HANDLING RULES:

- **Proper Lifting:** Use legal team lift mechanics for all 25-lb fertilizer bags to prevent spinal stress, and suppress raw chemical dust inhalation.
- **Chemical Isolation:** Segregate dry inputs from liquid acids per SDS rules to avoid hazardous reactions.
- **Scoop Integrity:** Use dedicated chemical-resistant scoops; never cross-contaminate tools between tanks.

INCIDENT & CLEANING PROTOCOLS:

- **Spill Kit Deployment:** Deploy absorbent socks and pillows instantly if an overflow occurs.
- **Label Permanence:** Ensure all secondary mixing containers are clearly and permanently labeled.
- **Formula Precision:** Measure and dilute all cleanroom sanitation solutions strictly per master formulas.

PROPER BOX LIFT TECHNIQUE



Sample excerpt only. Full editable toolkit, forms, and implementation guidance available

Company Name: [EDIT HERE]

Applicable Area: [EDIT HERE]

SOP Reference: [EDIT HERE]

to LYRA QMS clients and members