

CHEMICAL DETECTION GLOVES

INSTRUCTIONS FOR USE (IFU)

PRE-PRODUCTION TECHNICAL DOCUMENT

Important: This is not final commercial labeling. It is intended for planning, institutional review, training development, and pre-order information. Final production specifications, sensor-response criteria, storage conditions, shelf life, packaging, and warnings may change after validation. The final commercial IFU supplied with product will control.

DOCUMENT	REVISION	ISSUED	STATUS
IFU-001	A	September 6, 2026	Pre-Production Draft

SCOPE

This document describes intended use, product configuration, pre-use inspection, detection procedure, result interpretation, maximum wear time, limited reuse conditions, change-out criteria, disposal, warnings, storage, and troubleshooting for the pre-production DetectionGloves.com chemical-detection glove platform.

SAFETY POSITION

DetectionGloves.com gloves are intended as an additional presumptive screening tool during otherwise authorized work. They do not replace required PPE, hazardous-material controls, evidence-handling procedures, decontamination, infection-control, or confirmatory laboratory testing.

Read this IFU before evaluation or training use. Retain for reference.

PRODUCT OVERVIEW

DetectionGloves.com Chemical Detection Gloves are disposable black nitrile gloves with integrated fingertip sensing zones designed to provide a visible, presumptive colorimetric screening indication when an assigned target analyte interacts with the sensor under validated operating conditions.

IMPORTANT LIMITATION

A visible color response is **not** definitive laboratory identification. A lack of visible target-color response does **not** prove that a substance, surface, liquid, package, or object is free from the target analyte or safe to handle.

Glove platform

Material: Black nitrile

Nominal thickness: 5 mil

Sensor format: Integrated fingertip colorimetric sensing zones

Reader: No powered reader intended to be required

Maximum continuous wear: Do not exceed 4 hours; replace sooner when indicated

Intended users & environments

Trained professional users who may encounter suspected drug residues, powders, liquids, packages, or contaminated surfaces in law enforcement, corrections, EMS, fire, hospitals, schools, hospitality, evidence handling, shipping/logistics, laboratories, government, security, and workplace-safety operations.

GLOVE PERFORMANCE STANDARD

Production glove platform intended to meet ASTM D6978 performance requirements, subject to final production verification. ASTM D6978 addresses glove barrier performance and does not validate detection chemistry or analyte-specific sensor performance.

INITIAL ANALYTE TARGETS

Assigned finger	Target analyte	Target cutoff*	Positive indicator
Index	Fentanyl	10 ng/mL	Purple
Middle	Carfentanil	50 ng/mL	Orange
Ring	Xylazine	25 ng/mL	Yellow
Pinky	Medetomidine	100 ng/mL	Red

*Target cutoffs are pre-production commercial development specifications and remain subject to final validation of the integrated production glove.

Configurations: Single-Panel (one selected analyte on index finger), planned 2-Panel (index + middle, selected analyte pair), and 4-Panel (fixed four-analyte mapping shown above). The planned 2-Panel configuration may not be included in the initial pre-order allocation.

BEFORE USE

1 Select the correct glove

Choose the correct size and required analyte configuration. Confirm the product or package label matches the intended use.

2 Inspect glove integrity

Do not use a glove with tears, punctures, thinning, tackiness, discoloration, damaged seams, or obvious deterioration.

3 Inspect every sensor zone

Each sensor should be intact, dry, securely integrated, and show its expected unused baseline appearance. Do not use if missing, peeling, wet, smeared, pre-colored, contaminated, or visibly damaged.

4 Review agency procedures

Use the glove only as an additional screening tool. Continue required PPE, hazardous-material, evidence-handling, infection-control, decontamination, and workplace-safety procedures.

5 Perform hand hygiene

Follow site hand-hygiene and donning requirements. Ensure hands are dry before donning.

DO NOT CREATE AN EXPOSURE TO GET A RESULT

Do not intentionally touch, rub, dip, immerse, collect, or manipulate an unknown or hazardous substance merely because you are wearing the glove. Use the detection function only during otherwise authorized handling and within validated applications.

HOW TO USE THE DETECTION FUNCTION

1. Encounter occurs

During normal authorized work, a sensing fingertip may incidentally contact a suspected substance, residue, liquid, package, object, or surface within validated applications.

2. Observe assigned sensor

After contact, visually inspect the sensor associated with the target analyte. Do not manipulate the sensor to force a reaction.

3. Interpret visible response

Compare the sensor appearance with the validated color-response criteria supplied with the final commercial product.

4. Act under protocol

Treat an apparent positive response as presumptive only. Follow agency or site procedure for safety, isolation, documentation, confirmatory testing, decontamination, and glove replacement.

Prototype appearance shown in pre-production materials is illustrative. Final sensor appearance and validated interpretation criteria may vary.

RESULT INTERPRETATION

PRESUMPTIVE POSITIVE

Expected target-color response appears on the assigned sensor. Maintain precautions, follow local safety or evidence procedure, replace the glove, and use confirmatory testing when definitive identification is required.

PRESUMPTIVE NEGATIVE

No expected target-color response is observed. This does **not** establish absence of the analyte and does **not** establish that the material or surface is safe.

INDETERMINATE / INVALID

Sensor is damaged, smeared, detached, contaminated, unusually colored, ambiguous, or cannot be confidently interpreted. Replace glove and use another validated screening or confirmatory method.

WEAR TIME, REUSE & CHANGE-OUT

MAXIMUM RECOMMENDED WEAR TIME

Do not wear the same glove for more than **4 hours** of continuous use. Replace sooner whenever contamination, sensor response, physical wear, loss of fit, or site protocol requires.

LIMITED REUSE

Gloves are disposable PPE. Limited reuse by the same wearer may be acceptable only when local policy permits, the glove has not contacted a suspected or known target substance or contaminant requiring disposal, no sensor has responded, the glove and sensors remain dry/clean/intact, cumulative wear has not exceeded 4 hours, and reuse is not prohibited by infection-control, evidence, laboratory, food-handling, or workplace policy.

IMMEDIATE CHANGE-OUT

Replace the glove immediately after any presumptive positive or unexpected sensor response; suspected hazardous contact requiring disposal; tear, puncture, abrasion, excessive stretch, thinning, or loss of fit; wet or contaminated sensor; or any condition that conflicts with local PPE policy.

DO NOT WASH OR DISINFECT SENSOR ZONES

Do not wash, soak, solvent-rinse, wipe with disinfectant, or chemically clean the sensing fingertips for reuse unless the final validated commercial IFU expressly permits it. Cleaning agents may alter sensor performance.

Doffing and disposal. Remove the glove using your organization's approved technique to minimize contact with the exterior surface. Dispose of used gloves according to the hazards actually encountered and applicable local, facility, evidence, medical-waste, hazardous-waste, and occupational-safety procedures. Perform hand hygiene after removal as required.

WARNINGS AND LIMITATIONS

- Presumptive screening only. Do not use a glove response as definitive chemical identification.
- Do not use a negative response as proof that a substance, surface, liquid, package, or object is safe or target-free.
- Do not intentionally create contact with an unknown or hazardous substance to obtain a result.
- Do not use the detection function as a substitute for required PPE, respiratory protection, hazardous-material controls, scene isolation, decontamination, or evidence procedures.
- Do not use for medical diagnosis, direct testing on a person, or as the sole basis for clinical treatment decisions.
- Do not use as the sole basis for arrest, charging, evidentiary, disciplinary, or other high-consequence determinations where confirmatory identification is required.
- Performance may be affected by concentration, sample amount, mixtures, sample or surface matrix, interfering chemicals, moisture, environmental conditions, storage history, age, contamination, sensor damage, and improper use.
- Color intensity may vary. Follow the validated interpretation criteria supplied with the final commercial product.
- Target cutoff values shown in pre-production materials remain subject to final production validation.

STORAGE & HANDLING

Keep unopened product in original packaging in a clean, dry environment away from direct sunlight, excessive heat or freezing, moisture, strong vapors, solvents, disinfectants, oxidizers, and other chemicals that may alter sensor zones. Do not use packaging that is open, wet, damaged, contaminated, or compromised. Do not mark, tape, coat, spray, or apply chemicals to sensor zones. Observe the labeled expiration or use-by date once commercial dating is established.

TROUBLESHOOTING

Colored before use: replace glove.

Peeled/damaged: replace glove.

Ambiguous/weak color: treat as indeterminate; replace and use another method.

Unexpected color: treat as indeterminate unless defined by the final color chart.

No response despite suspicion: do not assume absence; maintain precautions and use alternate or confirmatory testing.

Glove damaged: stop use and replace immediately.

QUICK REFERENCE

BEFORE USE	Correct size/configuration; glove intact; sensors dry, intact, baseline; required PPE and procedures in place.
DURING USE	Do not intentionally seek exposure. Observe the assigned sensor after incidental contact during authorized work.
PRESUMPTIVE POSITIVE	Visible expected target-color response: replace glove, maintain precautions, follow agency/site procedure, confirm when required.
PRESUMPTIVE NEGATIVE	No expected visible target-color response: do not infer that the material or surface is safe or target-free.

DOCUMENT CONTROL

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IFU CONTROLS**

This pre-production IFU is for planning, institutional review, training development, and pre-order information. Before commercial shipment, DetectionGloves.com intends to issue a final IFU with validated production specifications, sensor-response criteria, storage and shelf-life information, and final warnings or limitations. The final commercial IFU will control.

PRE-PRODUCTION PRODUCT IDENTIFICATION

Field	Record / Reference
Product / configuration	_____
Glove size	_____
Lot / batch	_____
Date reviewed	_____

Retain this document for institutional review and training-development reference until superseded by the final commercial IFU.