

TECHNICAL REPORT: CHEMICAL EXPOSURE ANALYSIS

Subject: Bengal UltraDust 2X Fire Ant Killer - Cell Contamination Incident

Victim: Kevin "Rashid" Johnson (Perry Correctional Institution, SCDC)

Date of Incident: May-June 2025

Report Date: March 15, 2026

1. PRODUCT IDENTIFICATION

Correct Product Name: Bengal UltraDust 2X Fire Ant Killer

Incorrect Transcription in Testimony: "bingo, B,E,N,G,A,I,x" or "Bengal X"

EPA Registration No.: 68594-2

Manufacturer: Bengal Products, Inc. (Georgia)

Product Links:

- Manufacturer Product Page: <https://www.bengal.com/products/ultradust-2x-fire-ant-killer-1>
- Technical Data/SDS: Available via manufacturer or PBM Supply (contact for batch-specific SDS)

Critical Correction: The product is **NOT** "Bengal X" or a generic insecticide. It is specifically **Bengal UltraDust 2X Fire Ant Killer**, a restricted-use outdoor pesticide formulated for fire ant mounds only.

2. CHEMICAL COMPOSITION & HAZARD CLASSIFICATION

Active Ingredient

- **Deltamethrin:** 0.1% (w/w)
- **Classification:** Synthetic pyrethroid (Type II) neurotoxin
- **Mechanism:** Voltage-gated sodium channel disruption in nervous system; neurotoxic to mammals through prolonged/repeated exposure

Inert Ingredients (Hazardous)

- **Crystalline Silica (Quartz):** Listed as inert carrier/dust diluent
- **IARC Classification:** Group 1 Definite Human Carcinogen (silica dust, crystalline, in form of quartz)
- **Health Effects:** Lung cancer, silicosis (irreversible fibrotic lung disease), chronic obstructive pulmonary disease

Formulation Characteristics

- **Physical State:** White powder/dust
 - **Water Repellency:** Explicitly formulated to **not clump or absorb moisture**
 - **Implication:** Cannot be cleaned with water; persists on surfaces indefinitely in humid environments
 - **Odor:** Odorless (victim would not detect chemical presence via smell)
-

3. TOXICOLOGICAL PROFILE

Acute Exposure Symptoms (Documented in SDS)

- **H333:** May be harmful if inhaled
- **H316:** Causes mild skin irritation
- **Target Organs:** Eyes, Respiratory system, Skin
- **Specific Warnings:**
 - "Store in well-ventilated place"
 - "IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing"
 - "Obtain special instructions before use"
 - "Do not handle until all safety precautions have been read and understood"

Chronic/Prolonged Exposure (ATSDR Data)

- **Immunosuppression:** Deltamethrin causes "significant immunosuppression of the humoral immune response" and decreased lymphocyte activity with intermediate-duration exposure (14-84 days)
- **Respiratory Toxicity:** Inhalation targets respiratory system; prolonged exposure causes bronchospasm and inflammation
- **Carcinogenicity:** Crystalline silica causes lung cancer via inflammation-driven secondary genotoxicity; no safe threshold for silica exposure

Neurotoxicity Profile (CDC/ATSDR)

- Deltamethrin concentrates in nervous tissue (hypothalamus, hippocampus, cerebellum) at levels higher than plasma
- Type II pyrethroids (including deltamethrin) cause choreoathetosis (sinuous writhing), salivation, and motor disturbances
- Delayed effects: Altered locomotory behavior observed months after exposure

4. SYMPTOM CORRELATION ANALYSIS

Table

Victim's Reported Symptoms	Toxicological Mechanism	Source Verification
Immediate respiratory infection upon cell entry	Acute inhalation toxicity (H333); respiratory system as target organ	SDS Target Organ listing
"Rattling... like I had water in lungs" severe congestion	Pyrethroid-induced bronchospasm; silica-induced inflammatory response	ATSDR respiratory toxicity
Immune system collapse; dental abscess (July 3)	Deltamethrin immunosuppression; decreased lymphocyte activity	ATSDR immunotoxicity s
White sticky powder that "wouldn't wash away" with water	Water-repellent formulation (silica/deltamethrin carrier)	Manufacturer product spe
Symptom recurrence upon return to same cell	Persistent chemical residue due to water-repellency and poor ventilation	Product formulation analy

Chronic antibiotic dependence (June-July 2025)	Secondary infections due to immunosuppression from pyrethroid exposure	ATSDR immunological ef
--	--	------------------------

5. REGULATORY VIOLATIONS & MISUSE CLASSIFICATION

Label Violations (FIFRA)

- **Intended Use:** "sprinkle one teaspoon over the top of an average size mound (8" to 10")" - outdoor fire ant mounds only
- **Actual Use:** Applied to interior surfaces of residential/housing cell (sink, toilet, window, walls)
- **Ventilation Requirement:** Label specifies "well-ventilated place" (storage); cell was enclosed solitary confinement unit with no ventilation
- **Personal Protective Equipment:** Label requires reading safety precautions before use; no PPE provided to occupant

Occupational Safety Violations

- **OSHA/NIOSH Standards:** Crystalline silica exposure in enclosed spaces exceeds permissible exposure limits (PEL) for construction/industrial settings; no exposure limits established for residential pesticide application
- **EPA Risk Assessment:** Indoor use of silica-based dust formulations in residential settings presents "unreasonable adverse effects" under FIFRA Section 12(a)(1)(P)

Cruel and Unusual Punishment (Eighth Amendment)

- **Deliberate Indifference:** Knowledge of toxic exposure (symptoms documented by medical staff) with failure to remediate or relocate
- **Chemical Assault:** Intentional application of known neurotoxin and carcinogen in enclosed living space
- **Medical Neglect:** Failure to treat abscess (potentially fatal); immune suppression from chemical exposure compounded by inadequate care

6. MEDICAL EVIDENCE PRESERVATION

Recommended Testing for Victim:

1. **Respiratory Function:** Spirometry and diffusion capacity testing for silicosis/lung damage markers
2. **Toxicological Screening:** Deltamethrin metabolites (3-phenoxybenzoic acid) in urine (testing window: within 48 hours of exposure for acute; hair testing for chronic)
3. **Immunological Panel:** Lymphocyte counts, immunoglobulin levels (IgG, IgA, IgM) to document immunosuppression
4. **Imaging:** High-resolution CT chest scan for early silicosis detection (crystalline silica exposure)
5. **Dental Records:** Documentation of abscess treatment dates correlating with exposure timeline

Environmental Testing Needed:

- Cell surface wipe samples for deltamethrin residue (GC-MS analysis)
 - Air sampling for respirable crystalline silica if cell remains contaminated
 - Bulk sample analysis of dust composition to match Bengal UltraDust 2X formulation
-

7. LEGAL REFERENCES

Chemical Assault/Torture:

- **UN Convention Against Torture (CAT):** Article 1 - "any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted"
- **ICCPR:** Article 7 prohibition on cruel, inhuman or degrading treatment

Domestic Violations:

- **Eighth Amendment:** Deliberate indifference to serious medical needs (*Estelle v. Gamble*, 429 U.S. 97 (1976))
 - **First Amendment:** Retaliatory use of chemical exposure to suppress speech (content-based retaliation)
 - **Administrative Procedure Act:** Arbitrary and capricious creation of "3-box policy" to circumvent court order
-

8. SOURCE DOCUMENTATION (HYPERLINKS)

Chemical & Toxicological Data:

- ATSDR Toxicological Profile for Pyrethrins/Pyrethroids (CDC): <https://www.atsdr.cdc.gov/toxprofiles/tp155.pdf>
- OEHHA Deltamethrin Hazard Profile: <https://oehha.ca.gov/sites/default/files/media/downloads/crn/101212hiddeltamethrin.pdf>
- IARC Monograph Vol. 68 (Silica): <https://monographs.iarc.who.int/wp-content/uploads/2018/06/mono68.pdf> (via Cancer.org reference)
- IARC Group 1 Carcinogen List: <https://www.cancer.org/cancer/risk-prevention/understanding-cancer-risk/known-and-probable-human-carcinogens.html>
- Crystalline Silica Cancer Mechanism (PubMed): <https://pubmed.ncbi.nlm.nih.gov/21923565/>
- Silica Dust Fact Sheet (EU): <https://stopcarcinogensatwork.eu/fact/respirable-crystalline-silica/>

Product Information:

- Bengal UltraDust 2X Official Product Page: <https://www.bengal.com/products/ultradust-2x-fire-ant-killer-1>
- Amazon Product Listing (Specifications): <https://www.amazon.com/Bengal-Products-93650-Ultra-Killer/dp/B0009EM3HU>
- Solutions Pest & Lawn (Active Ingredient Info): <https://www.solutionsstores.com/bengal-ultradust-2x-fire-ant-killer>

Health Organizations:

- American Cancer Society (Silica): <https://www.cancer.org/cancer/risk-prevention/understanding-cancer-risk/known-and-probable-human-carcinogens.html>
- CAREX Canada (Silica Profile): https://www.carexcanada.ca/profile/silica_crystalline/
- Cancer Australia (Silica Policy): <https://www.cancer.org.au/about-us/policy-and-advocacy/prevention/occupational-cancers/silica-dust/silica-dust-and-cancer>