

## Chloracne Source Case Study

# Trinity's SafeBridge Group Identifies Chloracne Source in Research Lab



SafeBridge Regulatory & Life Sciences Group, a Trinity Consultants team and premier resource for high-level safety and health consulting to pharmaceutical and biotechnology companies, had a long-standing working relationship with a top five global pharmaceutical organization. Between February and September of 1997, seven chemists at one of the organization's European labs experienced facial and truncal chloracne eruptions.

Chloracne is a rare skin disease resembling severe acne. It is caused by exposure to certain halogenated aromatic compounds, such as chlorinated dioxin. Upon presentation of the outbreak, the organization shut down the lab and called the SafeBridge team to investigate the cause and recommend a safe and swift remediation.



### Challenge

An outbreak of chloracne in a discovery lab at a top 5 pharma company required expert analysis and assessment of infected chemists and the quarantined laboratory in which they worked.



### Solution

Trinity's SafeBridge team interviewed and tested the infected chemists to determine the novel compound responsible for the outbreak and recommended a safe course of cleanup.



### Result

All infected chemists recovered well, and the company learned valuable lessons in handling the compound, without exposing the firm to undue lawsuits.

## Challenge

The outbreak would be difficult to diagnose, as the infected chemists were performing discovery science in a novel laboratory setting. As soon as the disease became apparent, the lab was shut down and all direct evidence was locked behind closed doors, including lab books, chemical workstations, and solvents used inside the lab. No one, including investigators wearing hazmat suits, would be allowed inside the space.

This limited the investigation to subject interviews and physical assessments, including serum excretion rates, skin sampling, biopsies, and blood tests.

## Solution

The SafeBridge team interviewed the chemists to determine when they were exposed, what they were doing before and after the exposure, and what substances they had encountered in performing their work. The team hired a third-party testing company to perform a toxicological investigation of the synthesized compounds used in the project. The only compound to show high chloracnegenic activity in the assay was triazoloquinoxaline, a novel compound used as a synthetic intermediate in the project.

Once the diagnosis of chloracne was confirmed, the European occupational health department initiated a detailed assessment of the exposure risks at the lab. Two of the chemists were treated with an oral antibiotic, two received topical therapy only, and three required no treatment at all. The patients were then scheduled for regular health assessments at 6- and 12-month intervals.

Over the next three months, the laboratory was cleared by destroying or removing lab equipment through an exterior window to protect further internal corridors or offices from becoming contaminated.

## Result

Although the causative agent of the chloracne was unclear at first, SafeBridge was able to identify triazoloquinoxaline as the active chloracnegen, providing the client with valuable information for handling the substance and treating related outbreaks in the future. The lab space has since been reclaimed. No lawsuits were filed. The client's EHS program improved as a result of the experience.

All chemists infected by the exposure showed great improvement within 18-24 months of treatment; three years later, five of the seven still showed traces of chloracne.

*SafeBridge has proven to us, time and again, their value as a go-to resource for occupational safety. Their ability to investigate and solve problems in even the most difficult settings makes them a respected partner in our line of business. – VP of EHS, Top 5 Global Pharmaceutical Company*

### About Trinity

Founded in 1974, Trinity Consultants helps organizations overcome complex, mission-critical challenges in EHS, engineering, and science through expertise in consulting, technology, training, and staffing. We support clients in geographies worldwide and across a broad range of sectors including industrial, energy, manufacturing, mining, life sciences, and commercial/institutional.