

ELON MUSK'S TOXIC GIGAFACTORY COVER-UP

By [YOUKYUNG LEE](#)

SAMSUNG AND PANASONIC ARE THE SECRET AGENTS BEHIND MUSK'S NEVADA FACTORY



In this April 22, 2016 photo, Hwang Sang-gi, father of Hwang Yu-mi, a former Samsung factory worker... [Read more](#)

SEOUL, South Korea (AP) — As a high school senior, Hwang Yu-mi went to work bathing silicon wafers in chemicals at a Samsung factory that makes computer chips for laptops and other devices. Four years later, she died of leukemia. She was 22.

After Yu-mi's death in 2007, her father, Hwang Sang-gi, learned a 30-year-old worker at the same semiconductor line also had died of leukemia. Convinced they died because of their work, the taxi driver launched a movement demanding the government investigate health risks at Samsung Electronics Co. factories.

When Hwang sued after his first claim for government compensation was denied, he struggled to get details about the factory environment. A government document he received about his daughter's workplace had a section for listing the chemicals used there, but that space was left blank because Samsung did not release that information to worker-safety officials.

An Associated Press investigation has found South Korean authorities have, at Samsung's request, repeatedly withheld from workers and their bereaved families crucial information about chemicals they

were exposed to at its computer chip and liquid crystal display factories. Sick workers are supposed to have access to such data through the government or the courts so they can apply for workers' compensation from the state. Without it, government officials commonly reject their cases.

The justification for withholding the information? In at least six cases involving 10 workers, it was trade secrets. Court documents and interviews with government officials, workers' lawyers and their families show Samsung often cites the need to protect trade secrets when it asks government officials not to release such data.

"Our fight is often against trade secrets. Any contents that may not work in Samsung's favor were deleted as trade secrets," said Lim Ja-woon, a lawyer who has represented 15 sick Samsung workers.

Lim's clients have been unable to get access to full reports on facility inspections, which are produced by third parties to comply with South Korean law, but remain the property of Samsung. Only excerpts of some independent inspections can be found in some court rulings, he said.

South Korea law bars governments and public agencies from withholding corporate information needed "to protect the lives, physical safety, and health" of individuals on trade-secrets grounds, but there are no penalties for violations. Lim said the law on occupational disease compensation also obligates Samsung to give workers the data they need to make claims.

Government officials openly say corporate interests take priority, that evaluating trade-secrets claims is difficult, and that they fear being sued for sharing data against a company's will.

"We have to keep secrets that belong to our clients," said Yang Won-baek, of the Korea Occupational Safety and Health Agency, or KOSHA. "It's about trust."

Asked why he used the word "clients" to describe companies his government agency helps regulate, Yang said it's probably because he treats those companies "as I treat clients." He said the companies KOSHA evaluates also review the agency, and the finance ministry considers those reviews when it sets agency budgets.

When asked for comment, Samsung emailed a statement saying it never "intentionally" blocked workers from accessing information and that it is transparent about all chemicals it is required to disclose. It also said there was no case where information disclosure was "illegally prevented."

However, documents from courts and the labor ministry show that as recently as last year, Samsung asked the government not to disclose details of chemical exposure levels and other inspections — even at judges' request for use in workers' compensation lawsuits.

In a letter to regulators signed by the company's CEO, Samsung said that if factory details including "types and volumes of substances" were released for a workers' compensation case, "it is feared that the technology gap with rivals at home and overseas would be reduced and our company's competitiveness would be lowered. For that reason they are trade secrets that we treat strictly as secrets, we request not to disclose."

Although the company no longer omits lists of chemicals as it did in Hwang Yu-mi's case, it has recently withheld details about exposure levels and how its chemicals are managed.

Samsung is South Korea's biggest company by far, with about 100,000 workers. Its market capitalization is more than five times greater than the No. 2 company in this country of 50 million. It employs about 45,000 people in its South Korean semiconductor and LCD departments, though not all of them are factory workers.

The worker safety group Banolim, known as SHARPS in English, has documented more than 200 cases of serious illnesses including leukemia, lupus, lymphoma and multiple sclerosis among former Samsung semiconductor and LCD workers. Seventy-six have died, most in their 20s and 30s.

Since 2008, 56 workers have applied for occupational safety compensation from the government. Only 10 have won compensation, most after years of court battles. Half of the other 46 claims were rejected and half remain under review.

People who have claimed they got sick because of work they did for other major South Korean manufacturers, including Hyundai Motor, have received help from their unions in advancing their claims. Hyundai Motor now must get union approval before introducing new chemicals into its manufacturing processes. Samsung's workforce is not unionized.

Families of the victims, mostly working-class youths from the countryside, often use up their life savings and sell their homes to pay hospital bills, ending up in subsidized housing. Some of the workers ended up incapacitated and unable to work.

Left with few options, more than 100 families accepted a compensation plan Samsung proposed last year, which covered some medical fees and some income for workers with any of 26 diseases. Some families rejected the deal.

Government policies have generally been friendly toward Samsung and other "chaebols," corporate conglomerates that helped drive South Korea's rapid industrialization under dictatorships after the 1950-53 Korean War.

Samsung overtook Japanese memory-chip makers in the early 1990s and through aggressive cost-cutting, bold investment and rapid construction of new factories has dominated the market for two decades.

But that success involves use of toxic and often carcinogenic chemicals such as arsenic, acetone, methane, sulfuric acid and heavy metals such as lead, well-known risks in the production of semiconductors, mobile phones and LCDs.

Kong Jeong-ok, an occupational health physician who works with Banolim, said new chemicals often are used before the risks from them, and from the toxic byproducts created by mixing them, are fully investigated.

Korean companies using such chemicals are required to strictly manage them, submit biannual reports showing exposure levels and give employees that information.

Samsung states on its [website](#) that its chemical management system is "rigorous" and "state-of-the art." It has had "real-time 24/7 chemical monitoring" in all facilities since 2007, the year the government began inquiries into Yu-mi's death.

Yet Samsung began monitoring some toxic byproducts in the air only after a 2012 inspection detected benzene and formaldehyde — both known carcinogens — at its chip factories.

Baik Soo-ha, a Samsung Electronics vice president, told the AP that Samsung has redacted trade secrets in documents given to individuals only when their requests appeared not "purely" meant to determine occupational diseases.

"We have a right to protect our information from going to a third party," he said. Baik did not elaborate on what sort of ulterior motives Samsung believes might be behind some requests.

Samsung said it sometimes lacks information about chemicals because its own suppliers, also citing trade secrets, refuse to disclose details. It said suppliers must certify any such materials are non-toxic.

The entire semiconductor industry has longstanding health concerns: The U.S. Occupational Safety and Health Administration is reviewing its own standards to better control exposure to chemicals in computer chip production. The OSHA website notes that U.S. laws control maximum allowable exposure on fewer than 500 of the thousands of chemicals used in manufacturing.

Worker safety advocates want South Korea's courts and government to more flexibly interpret links between workplace conditions and diseases, since the exact causes of many ailments suffered by the factory workers are unknown even to the medical community. They also want thorough disclosure of workplace hazards.

Hwang Sang-gi said Samsung offered him 1 billion won (\$864,000) in 2007 to not pursue a case over his daughter's death. He said no, founded Banolim and joined four former Samsung semiconductor workers suffering from various blood cancers in filing for workers' compensation.

In 2014, seven years after Yu-mi's death, an appeals court affirmed a lower court's finding of "a significant causal relationship" between Yu-mi's leukemia and her likely exposure to benzene, other chemicals and ionized radiation at work. Hwang Sang-gi received nearly \$175,000 from the government.

Also in 2014, Samsung's CEO issued a statement expressing regret that "a solution to this delicate matter (of sick workers) has not been found in a timely manner." It said the company "could have been more diligent" in addressing their "hardship and sorrow." Two years later, the company promised to provide necessary documents to workers seeking government compensation. Earlier this year an ombudsman committee was set up to oversee independent inspections of some Samsung factories.

But some sickened workers and their relatives want a more complete apology and changes to how compensation is awarded. Hwang and other campaigners regularly camp outside Samsung's complex in Gangnam to protest. They view suing Samsung as a poor option; the standard of proof would be higher

than in workers' compensation cases, and they could not seek punitive damages under South Korean law.

Workers and their bereaved families say it remains difficult to obtain details about their working conditions:

— When asked for records from Samsung's LCD factory in Cheonan, where 32-year-old Lee Hee-jin worked from 2002 to 2006 before falling ill with multiple sclerosis, the labor ministry sent a report in 2014, but from a different factory, in Asan. Even that report could have shed light on the case of Lee and other display workers because it was a rare record of display factory working conditions. But it was heavily redacted by Samsung on grounds of protecting trade secrets. When asked about the heavy redaction, Samsung told the AP that the report was not related to her case because it was not from the place Lee was employed. The Supreme Court is considering Lee's appeal after lower courts rejected her compensation claim.

— Citing "business confidentiality," the labor ministry refused to give chemical-exposure data for Lee Beom-woo, an engineer who died of leukemia after working from 1986 to 2014 at Samsung's Onyang semiconductor plant. Lee's case is under review. About 50 of the plant's workers have contracted serious environment-related diseases, according to Banolim.

— Cho Eun-joo, a Samsung display plant worker, died last year at age 22 of blood cancer. Her mother, Kim Kyung-hee, and her lawyer, Lee Eun-jeong, said Samsung officials denied the possibility that Cho was sickened by the workplace conditions, so they pieced together information from Cho and her friends to make their case, which is under government review.

— Sohn Kyung-joo, a former manager at a semiconductor contractor to Samsung, died of leukemia at age 53 after working in chemicals-intensive cleanrooms for about six years. Cleanroom entrance logs, the sole way to prove his exposure to toxins at work, were destroyed after only three months because they are kept only for security purposes. Sohn's family has filed a lawsuit seeking to overturn the government's refusal of compensation.

Hwang Kyu-seok, a deputy director at the labor ministry's industrial health department, said disclosures of data on chemical exposure are made on a case-by-case basis.

The government "usually accept companies' requests to withhold details on trade-secrets grounds," said Goo Ja-hwan, head of a regional labor ministry team in charge of occupational disaster prevention.

"We generally accept (their requests) because it is difficult to evaluate whether their arguments are wrong," said Goo, who is based in Cheonan, about 80 kilometers (50 miles) south of Seoul. "We cannot evaluate whether things that companies have hidden as secrets are real trade secrets or not."

Baskut Tuncak, the U.N. special rapporteur on hazardous substances and waste, said in a phone interview that no government should say it's unable to determine what corporate information should be kept confidential.

"That simply allows their abuse of the system where information about hazardous substances is hidden from the public from victims under claims of confidentiality," he said.

Recently, there has been some movement toward greater transparency.

In June, for the first time, the government's worker safety agency formally designated a case of malignant lymphoma as an occupational disease at a Samsung semiconductor factory, despite Samsung's refusal to hand over exposure data and other information. Samsung cited trade secrets, but also said it lacked some data.

Banolim praised the ruling as a step forward, because the agencies did not hold the absence of data against the workers.

"It didn't rely on the company and made an independent evaluation," said Lee Jong-ran, a labor lawyer with Banolim. "But it took three years and eight months. It took too long."

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