

STATEMENT FOR NEWS CONFERENCE
Thursday January 5, 2012
Nashville, TN
CSB Chairman Rafael Moure-Eraso and Johnnie Banks

Good morning and welcome to our news conference. I am Rafael Moure-Eraso, Chairperson of the U.S. Chemical Safety Board, or CSB. We are here today to release our final case study, formal safety recommendations and latest safety video into three accidents that occurred in Gallatin at the Hoeganaes iron powder facility in 2011. Tragically, these incidents led to a total of five fatalities and three injuries to Hoeganaes employees.

On January 31st 2011, a flash fire occurred at the Hoeganaes facility fatally burning two workers. A similar flash fire occurred on March 29th, causing one injury. Then on May 27th an explosion and ensuing fire took the lives of three workers. All three accidents occurred within six month of each other – causing immeasurable harm to the victims and their families.

The CSB's case study examines all three accidents. Allow me to provide a brief history of our investigative activities to date.

The CSB and its experts have done extensive testing on the metal dust from the facility. Tests show that powder samples collected from the sites of all three accidents were combustible under test conditions. These results largely agree with tests by Hoeganaes itself prior to the January accident.

At a news conference in Nashville on May 11, the CSB released the laboratory test results on dust samples collected from the plant after the second accident. The tests demonstrated the combustibility of even small amounts of the iron dust when dispersed in air in the presence of an ignition source.

On November 16, 2011, the CSB held a public meeting in Gallatin, where investigators presented their findings and draft safety recommendations to CSB board members. The board and public also heard from a panel of experts on how to control the hazards of combustible dust.

This morning we will be releasing the final case study and safety recommendations resulting from our investigation. We will also be releasing the latest CSB safety video entitled, "Iron in the Fire."

Since the CSB was established in 1998, three of the deadliest accidents we have investigated were determined to be combustible dust explosions.

A wide range of common combustible materials can explode in fine powder form, including metals, wood, coal, flour, sugar, plastics, and many chemicals and pharmaceuticals.

I would now like to introduce CSB Team Lead Johnnie Banks, the investigator-in-charge for this case. He will be discussing the CSB's findings.

Investigator Banks.

Thank you, Chairperson Moure-Eraso.

First, allow me to briefly describe the operations at the Hoeganaes facility and recap the CSB's previous activities at the site. The Hoeganaes facility employs approximately 180 workers and

manufactures “atomized” iron powder that is sold to the automotive and other industries for the production of metal parts using powder metallurgy.

The plant collects scrap iron, which is then melted, sprayed into powder form, and then annealed using hydrogen gas and a large continuous furnace. This powder is then further milled, packaged, and eventually sold as a final product.

During all three of our deployments to the Hoeganaes plant, my team observed alarming quantities of metal dust within close proximity to the incident locations. This was of particular concern as metal dust flash fires present a greater burn injury threat than flammable gas or vapor flash fires. Metal dust fires have the potential to radiate more heat and some metals burn at extremely high temperatures in comparison to other combustible materials. In addition to visible dust particles in the air, 2 to 3-inch layers of dust were observed on flat surfaces, rafters, and railings throughout the facility.

The CSB determined that iron powder was the fuel source in the January and March 2011 flash fire incidents. In the third incident in May, the hydrogen explosion lofted and ignited iron powder that accumulated on elevated surfaces.

The phenomena of metal dust hazards are not new and have been addressed as early as the 1940’s in National Fire Protection Association (NFPA) publications. In addition to Hoeganaes, the CSB alone has investigated 5 other combustible dust incidents, 2 of which also involved combustible metal dust.

The CSB found that within the Hoeganaes Corporation, there were previous incidents involving the same fuel sources as the 2011 incidents.

In 1992, a hydrogen explosion and dust fire in a furnace at the Hoeganaes Riverton, New Jersey facility severely burned a worker.

In 1996, an iron dust fire in a dust collection system at the Gallatin facility injured a worker. Throughout its history, the company has experienced a number of small iron flash fires that did not result in injuries.

The CSB’s case study includes several key findings. First I will summarize our findings as they pertain specifically to Hoeganaes and the City of Gallatin.

Specifically, the CSB investigation found that significant accumulations of iron powder fueled flash fire incidents. Although Hoeganaes management personnel were aware of metal powder combustibility hazards, no effective action was taken to mitigate the hazard through engineering controls and housekeeping.

Instead of utilizing engineering and administrative controls such as dust collection systems and housekeeping programs, Hoeganaes relied on flame resistant clothing – also referred to as FRC – to protect workers from iron dust flash fires. Ultimately, Hoeganaes did not provide corporate oversight to ensure that the Gallatin facility was adequately managing combustible dusts prior to and throughout the succession of serious incidents at the facility.

The CSB found that after the first two incidents, the Gallatin Fire Department conducted an inspection of the facility, but did not address the existing combustible dust hazards. Just a few weeks later, the third fatal hydrogen explosion and flash fire occurred.

The investigative team found gaps in existing codes and regulations which contributed to the events at Hoeganaes. OSHA’s national emphasis program on combustible dust did not include iron

powder facilities such as Hoeganaes. Therefore when the emphasis program commenced in 2007 and was re-issued in 2008 these facilities were not targeted.

To further illustrate the report findings we will now play the CSB's safety video entitled, "Iron in the Fire." This video includes three animations which detail the events leading up to each of the three accidents that occurred at Hoeganaes.

(PLAY VIDEO)

Now I would like to turn the podium back over to Chairperson Moure-Eraso who will review the CSB's recommendations.

Chairperson Moure-Eraso:

Thank you, Investigator Banks. I would like to emphasize the importance of a new federal standard for combustible dust. The CSB is calling on OSHA to develop and publish a proposed combustible dust standard within one year. And OSHA needs to ensure that the new standard includes coverage for combustible iron and steel powders. This standard will save lives.

The Board is also recommending that State and Federal OSHA target facilities for inspection that generate metal dust.

The CSB is issuing three recommendations to the Hoeganaes Corporation. These recommendations are opportunities for the company to prevent future accidents. First, the CSB is recommending that the company conduct periodic independent audits of the Gallatin facility, develop a near miss reporting system and training materials that address combustible dust.

As a result of the CSB's thorough examination of existing codes and standards, we are recommending that the International Code Council and the City of Gallatin comply with NFPA combustible dust standards in the workplace.

I would like to conclude by emphasizing the devastating impact that dust explosions can have on facilities, workers and the communities. I encourage industry and trade associations to support the development of a combustible dust standard – combustible dust explosions and fires are preventable. Development of this standard will save lives and prevent future accidents.

As I have said on numerous occasions, I believe that worker safety is a basic human right. No workers should die or be severely burned or injured simply trying to earn a living and provide for their families. Dust fires and explosions continue to claim lives and destroy property in many industries. More must be done to control this hazard. No more lives should be lost from these preventable accidents.

Thank you. We now invite any questions from the members of the news media and request that you please identify yourself and your news organization.