[These statements were released at a news conference on March 1, 2006, in Morganton, NC, to update the public on the Board's investigation of the fatal explosion at Synthron Inc. January 31.]

Statements of Board Member John S. Bresland and Lead Investigator James R. Lay, PE
U.S. Chemical Safety and Hazard Investigation Board (CSB)
Update on the CSB's Synthron Investigation
Morganton, North Carolina
March 1, 2006

MR. BRESLAND:

Thank you, Mr. Gilmour, and welcome to this briefing to update the public on the U.S. Chemical Safety Board's investigation of the tragic accident at the Synthron chemical manufacturing plant on January 31.

With me this morning are the Board's lead investigator, Mr. Jim Lay, and Major Ferber and Sergeant Duplain of the Morganton Department of Public Safety. Major Ferber and Sergeant Duplain have kindly agreed to appear here today to discuss the city's interest in this accident, and the emergency response.

Before I begin, let me offer my sincere condolences to the family and friends of Mr. Curtis "Butch" Brackett, who died of burn injuries several days after the explosion. Mr. Brackett was the maintenance chief at the plant. About a dozen others were injured, and we express our sympathy to them and to their families.

The U.S. Chemical Safety Board is an independent, non-regulatory federal agency. We are here investigating the explosion at Synthron to determine its root causes. We make our findings and recommendations public in the hope of preventing similar accidents in the future at other establishments. Our investigation is separate and independent from those of the North Carolina Department of Labor, local authorities, and the company.

This is the CSB's second investigation in North Carolina in recent years. From January 2003 to September 2004, we investigated the catastrophic dust explosion at West Pharmaceutical Services in Kinston, which killed six workers and injured 38 others. Our investigation in that case led to some important recommendations to the state and others.

The event at Synthron was a powerful explosion, which in addition to causing injury and loss of life, essentially destroyed the manufacturing facility, heavily damaged nearby office structures, and caused significant damage to a church across the road. The blast shattered windows in homes and cars, with the potential to injure members of the public. Fortunately, most of the employees of the plant were able to evacuate the production area before the explosion occurred, avoiding an even greater tragedy.

CSB investigators have been here in Morganton each of the four weeks since this accident occurred. Our lead investigator, Jim Lay, is a registered professional engineer

who joined the CSB in 2005, after a 30-year career in the chemical industry and in process safety consulting. Mr. Lay?

MR. LAY:

CSB investigators have conducted a number of interviews with Synthron employees and others familiar with operations there. More interviews are expected.

The explosion has severely damaged the Synthron facility and rendered it unsafe for entry. The roof over the reactor area has partially collapsed. Many of the remaining support columns are damaged or distorted, and significant sections of the concrete floor slab have collapsed. The remaining structure appears highly unstable.

A structural engineer has recently inspected the building and is preparing a plan to make the building safe for investigators to enter. This may involve partial demolition of the existing structure. We and the other agencies involved will review the plan to assure it maintains the integrity of the critical equipment as much as possible.

From what we know right now, the explosion likely followed the release of chemical vapor from a 1500-gallon vessel, known as the M1 reactor. The M1 reactor was being used to produce a paint additive.

The chemical process involved the polymerization of the chemical n-butyl acrylate in a solvent mixture of toluene and cyclohexane. The solvents used are flammable, while the acrylate monomer is a class II combustible. According to testimony, this product was not commonly made at Synthron – it was produced once or twice a year. However, similar products were commonly produced at Synthron and this type of chemistry is widely practiced elsewhere in the chemical industry.

An important focus of our investigation will be to understand what was different about conditions on January 31 that could have caused the major accident that occurred.

Once the raw materials were transferred to the reactor, a chemical known as an initiator was added. The heat generated by the resulting reaction boiled the solvent, and solvent vapors were cooled in an overhead water-chilled condenser. The condensed liquid was returned to the reactor. Condensation of the vapor was the main source of cooling for the reactor. The reactor also had a jacket that could receive steam or water for additional temperature control. This type of process normally runs at close to atmospheric pressure.

It appears possible that on the day of the accident, an increase in pressure in the reactor led to the release of flammable vapor from a metal hatch, or “manway” on the top of the reactor. The reason for this increase in pressure is not currently known and is one focus of our investigation.

Butyl acrylate and similar substances – which are known as acrylic monomers – have been involved in past reactive chemical incidents at other U.S. facilities. However, determining conclusively what occurred at Synthron must await further investigation.

The foregoing information about the process is based on testimony we received and the review of some relevant documents. As far as is known, this facility, which was first constructed in the 1960s, did not have a system to record process data from the reactor electronically.

Our immediate priorities once the site is entered will include sampling any chemicals remaining in the reactor and its feed tank, as well as various raw materials, for laboratory testing. We will examine any instrumentation on the reactor and the configuration of the condenser and the pressure relief system. We will also study the condition of the reactor and its manway.

We have directed that Synthron produce a wide variety of additional documents – to the extent that they exist – including engineering drawings, schematics, product recipes, operating procedures, and training records. Mr. Bresland?

MR. BRESLAND:

Thank you, Mr. Lay. The Chemical Safety Board is still in the early stages of a lengthy process of understanding what happened here on January 31. Our investigations typically take 12 to 18 months to complete and conclude in a detailed written report, which is made public. In some cases, we conduct one or more public meetings to release findings and collect information from communities affected by chemical accidents.

Before I introduce Major Ferber and Sergeant Duplain, let me add a word of thanks for the cooperation among the many agencies involved in responding to and investigating this accident. The City of Morganton led an excellent emergency response under what were clearly very dangerous circumstances, and the response occurred without injury. Subsequent to that, the city worked very effectively to secure the site, avoid further environmental impact, and facilitate the work of all the federal, state, and local agencies which have responded to the incident. For that, I thank in particular Mayor Cohen, Chief Tolbert, Major Ferber – who served as the incident commander for most of the response – and the staff of the Morganton Public Safety department.

With that, I would like to introduce Major Ferber for any remarks, and then all four of us will be happy to answer your questions. Major?