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SAFETY ALERT

Fatality at Copper Tubing Plant

On July 29, 2009, one employee was fatally injured and two employees suffered burns as a result of a fire and explosion.

Preliminary results of an investigation by the USW have determined:

The employees were attempting to transfer a mixture of naphtha and mineral spirits (naphtha blend) from a tote system to the circulation reservoir. The naphtha blend is used as a cleaning agent at the end of the drawing process prior to the inking/marking process.

The naphtha blend is a highly flammable liquid and was being used in an area without the proper electrical classification of associated equipment. (The electrical classification required by the NFPA 70 National Electrical Code (NEC) for flammable liquids is Class I). During the transfer process the naphtha blend vapors were ignited by one of the many ignition sources within the area causing the incident. The possible ignition sources include, but are not limited to electrical equipment/motors, static electricity, lack of and/or poor bonding and grounding.

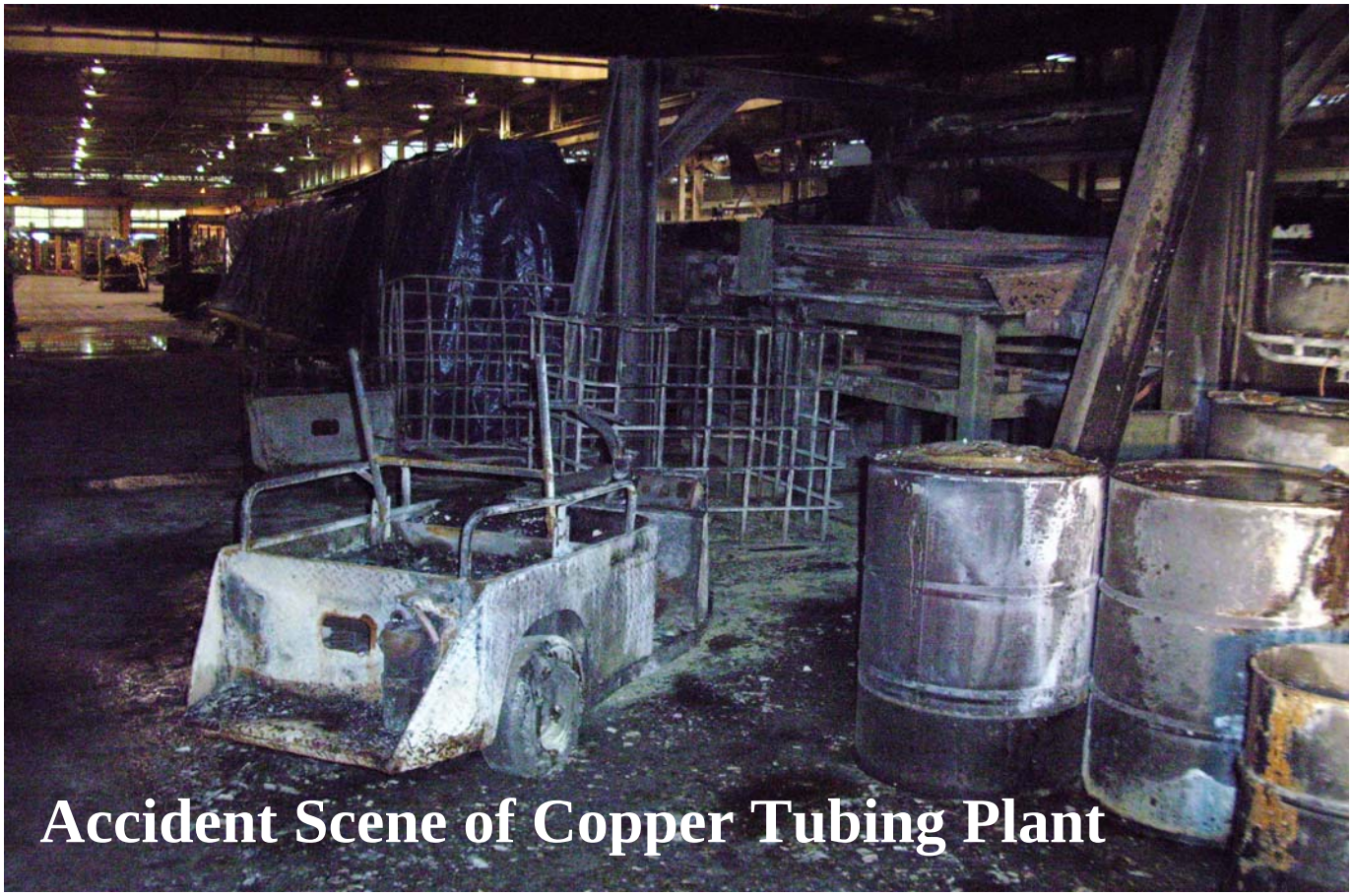
Lessons Learned

- The electrical equipment in the area of the incident was not intended for flammable liquids, in accordance with NEC requirements for the naphtha blend.
- The employees were not adequately trained to recognize all of the hazards associated with using the flammable naphtha blend liquid.

Recommendations

- Eliminate the hazards by using liquids that are non-flammable and non-toxic to workers' health and safety.
- Implement a comprehensive static electricity and flammable liquid safety program in compliance with current regulatory standards and good practice guidance.
- Provide training on the NEC for all personnel involved with the design, installation, maintenance and inspection of electrical equipment.
- When using flammable solvents, the employer must ensure (prior to use) that the electrical equipment/classification is in compliance with the NEC for the tasks and operations where flammable liquids are stored and handled.
- Provide training for all employees on Hazard Identification Techniques. This includes NFPA 30, 51B, 77, 704, OSHA 29 CFR 1910.106 & 1910.1200. The USW Health, Safety & Environment Department can assist with this training.

- Provide and maintain adequate ventilation classified for the work area to prevent the buildup of flammable vapors.
- When dispensing flammable liquids use only equipment that has nozzles and a container that is electrically interconnected (i.e. bonding and grounding). The manufacturer of the flammable liquid must be contacted to get additional information and guidance on proper flow rates (to reduce the static charge) for dispensing operations, as well as adding an anti-static agent to the non-conductive flammable liquid (as applicable). Most Material Safety Data Sheets do not provide this type of information.
- The U.S. Chemical Safety Board has conducted numerous investigations on fires and explosions involving nonconductive flammable liquids (some included naphtha). The CSB called for improvements in Material Safety Data Sheets. These nonconductive flammable liquids can accumulate and maintain static electrical energy which discharges more slowly than from more conductive liquids. In addition, some of these liquids can form ignitable vapor-air mixtures inside storage tanks which can explode if a spark occurs. The CSB issued two separate reports which are posted online at www.csb.gov under "Completed Investigations" that discuss Barton Solvent accidents. The first accident occurred on July 17, 2007 at a facility in Valley Center, Kansas, and a second accident occurred on October 29, 2007 at the Barton Solvents chemical distribution facility in Des Moines, Iowa. These reports offer additional information on how to prevent fires and explosions.



Accident Scene of Copper Tubing Plant