Basic Principles of Safety – Pressure

Your Objectives:

At the end of the lesson, you should be able to list the inherent dangers involved in managing pressure systems and to reference the SDS as, and when appropriate.

A pressure difference in closed pipelines can be used to transport liquids, gases or solids. Piping, which includes fittings and joints, is used to move fluids through various applications during manufacturing.

Because it is used to carry different fluids, piping should have to be made of different materials strong enough to withstand pressure and temperature. Piping includes fixed-in-place pipes as well as 'flexible' hoses that can also be connected to various other types of equipment.

Biogen uses sanitary piping, typically made of stainless steel, designed to prevent the collection of liquid accumulating where microorganisms might flourish. Connections, couplings and fittings should be airtight. Piping drains from the low points and can be easily cleaned and sterilized. Pipes carry various liquids, hot water and steam, and so it is important at Biogen to know which parts of the piping system are under hot pressure, because hydraulic systems can generate tremendous pressure that can otherwise cause improperly installed equipment parts to snap off, making them potentially harmful projectiles.

The following guidelines are to be used when working with a pressurized pipeline or a hose connection:

- Check pressure gauges
- Bleed excess pressure from pressurized lines
- Keep the free end of the hose under control
- Wear proper PPE when handling hot material

Reminder: Always study the SDS and safety precautions.