

Pressure Vessel (Plant) Guidance Common Autoclave Hazards

Cutting stablbing & puncturing

- broken glassware (handling into and removing from autoclave, handling after removal)
- broken or loose sharps

Electrical

- poorly maintained electrical cables
- water and steam near electrical systems or damaged electrical controls
- lack of isolation during cleaning, maintenance and repair

Slip trip hazards

- steam condensing on the floor
- electrical cables or other items located on the floor

Explosion

- disintegration of pressure chamber
- ejection of physically hazardous contents (utensils, sharps, glass etc)
- ejection of biologically hazardous contents (bacterium, virus, micro-organism)
- unexpected opening of chamber door whilst under pressure
- corrosives or flammable liquids/gasses enter autoclave leading to damage to vessel

High Temperature or fire

- steam from opening door
- heat from contents
- steam from pipe or source
- heat from tray
- steam escaping from door seal
- heat from external surfaces
- opening of chamber door whilst under pressure
- boil-overs

Ergonomic including manual handling

- inserting and removing contents
- opening interlocked doors
- location of operational controls
- design leads to common operating errors (non-intuitive controls/instruments)

High pressure gas/fluid

- high pressure steam escaping from chamber or pipes

Other

- entry of solvents, volatile or corrosive substances
- radioactive materials
- inadequate ventilation to extract hazardous gases
- contaminated sharps
- incorrect cycle time pressure temperature – autoclave contamination
- biological contamination from waste

Date: 17 August 2005. Reviewed 20 Feb 2008. Next Review 20 Feb 2011.	Guidance material: Version 1.0
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