SAPIA
Sasol – Learning Exposure to Hot Product

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Sasol - Exposure to hot product

While a service provider mechanical fitter was swinging the figure 8 for safe making of the 12-inch line, a mixture of hot stripped gas liquor and associated vapours was released from the flange, causing thermal burns to the second service provider mechanical fitter assisting with the task.

Thermal burns to multiple body parts (left side of the neck, both hands and left foot).

Sasol - Photo

Continuous release of stripped gas liquor and associated vapours after removal of figure 8.

The area where the injured service provider mechanical fitter was standing when he was exposed to stripped gas liquor and associated vapours.

Sasol - Summary of causes

Management, leadership, supervision and organisational culture.

Inadequate leadership or decision making demonstrated.

- The issuer (Acting foreman) demonstrated inadequate leadership decision making when he agreed with the safe maker to issue the permit while he was aware that the equipment was not yet drained.
- The safe maker instructed the mechanical fitters to continue with installation of blanks while he was aware that draining activity was not completed.
- The service provider recipient (Supervisor) did not stop the work when he noticed the liquid product still flowing from the drain point and when product released from the flange during the first line break.

Human factor

Procedure, rule or method not followed: Deviation from approved method, procedure or rule by any individual, supervisor, manager or group of people:

- The permit was issued before the equipment was made safe:

The issuer and the safe maker were aware that draining of the equipment did not take place when the permit was signed and issued

Sasol - causes continued

- The permit issued (To install blanks as per blank list) was also used for opening of the drain and vent point for the purpose of draining the equipment.
  - There was no permit issued to open the drain and vent point before the installation of blank permit was issued.

- Production personnel was not present during the first line break on the equipment that contained hazardous material (125ºC):
  - The issuer did not consider the physical properties (125ºC) of the product as hazardous material, only the toxicity of the product was considered.

- The service provider recipient and the mechanical fitters noticed the release of product coming from the flange during swinging of figure 8 and did not report it to production as per the TRA and procedure.
  - The service provider recipient and the mechanical fitters noticed a reduction in the flow of liquid product and continued opening the flange using a flange spreader.

Sasol - Learning

The purpose of the work permit:

- To maintain safe conditions of equipment, systems and surrounding areas for the safe execution of work.
- This implies the ability to effectively manage, and control process risks and the risks introduced by the maintenance work performed in operational facilities.

This requires three critical activities, namely:

- A process risk assessment done by the permit issuer and team.
- An appropriate task risk assessment completed by the task executor/s; and
- A discussion between the permit recipient/task executor/s and the issuer regarding any hazards that may be introduced into the operational area during the execution of the required maintenance task/s.

- **Legal liabilities of permit issuer, safemaker, recipient and task executor**