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control
strategy 2

Control Guidance Sheet 212b

Stationary filling of organic liquids in drums and IBC on pallets

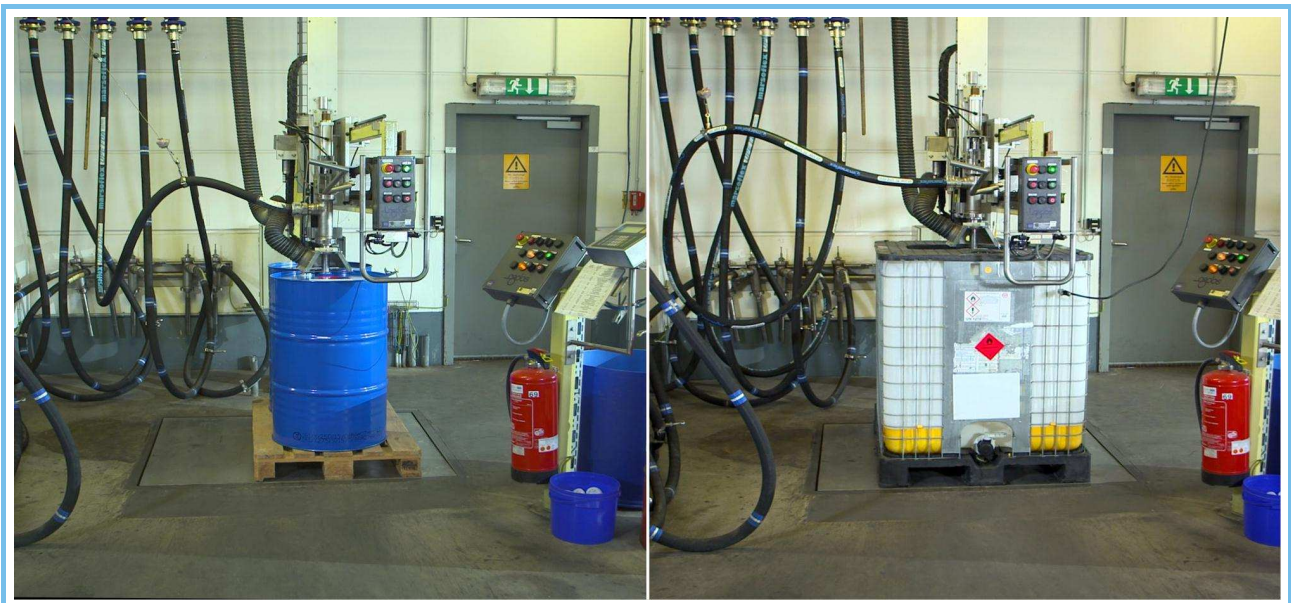
Engineering control

Basics for this control guidance sheet are (at the moment available in German language only)

- Control Guidance Sheet 100 - General Ventilation - basic requirements
- Control Guidance Sheet La-101 - Initialisation and storage - basic requirements
- Control Guidance Sheet 110 - Organisational and hygienic measures "inhalation" - basic requirements
- Control Guidance Sheet pc-170 - General fire prevention measures - basic requirements
- Control Guidance Sheet pc-270 - Increased risk of fire – general principles
- Control Guidance Sheet pc-281 - Filling and emptying of flammable liquids – prevention of ignition sources

Work process design

- A fivefold air change at the bottom of the working area is realised in closed or partially closed working areas during filling in containers.
- During filling the LEV and the ventilation system are already working.
- The filling device dips into the container during filling.
- During the complete filling process the displaced vapour-air-mixture is extracted directly at the container opening.
- Before filling the container are appropriately earthed.
- The filling device and the LEV of the filling system are fixed permanently with each other.



- During filling the local exhaust ventilation slot is positioned as near to the top of the container as possible.
- The local exhaust ventilation slot encloses the filling system on all sides and covers the container opening completely.
- The inspection glass is installed, if necessary.
- The filling occurs with a flow rate up to 12 m³/h using a pump system.
- The suction output of the integrated LEV is at least 24 m³/h.
- Filling is done by control and regulation of mass flow or weight.
- Controlled shutoff-valves avoid overfilling.

Efficiency control, maintenance and servicing

- The filling system is maintained and checked regular according to manufacturer's instructions; at least every three years.
- The correct performance of the valves and/or control elements of the filling system is checked regular; at least during each liquid change.
- Regular check (at least once a year) of the measures corresponding to this control guidance sheet.

Additional requirements

- Use of appropriate tools for transport to the working area without tipping.
- Filling below liquid level is done preverably.
- Fill pipes covered with liquids will not be touched by hand.
- Installed inspection glasses are chemical resistant and scratch-resistant.
- In case of failures additional measures are applied during cleaning and maintaining. Measures are chosen company-specific.
- Whether medical checkups are arranged and offered, has been tested and implemented.
- Fire extinguisher fire class B (powder or CO₂) are easily accesible.

Further information

- Practical instructions for a good working practice "Filling of jerrycans, drums and IBC with organic liquids" "www.baua.de/dok/8728664".
- BAuA-Instructions for the working practice with hazardous substances, "www.baua.de/EN/Topics/Work-design/Hazardous-substances/Working-with-hazardous-substances/Working-with-hazardous-substances_node.html"
- DGUV rule 109-002 (former BGR 121) "Arbeitsplatzlüftung – Lufttechnische Maßnahmen", www.dguv.de/publikationen
- Information booklet S019 "Handlungshilfe zur Prüfung und Dokumentation ortsfester Absauganlagen", www.bgetem.de, Webcode 12201321, Medienshop "Hilfsmittel/Kontrolle der Arbeitssicherheit/Gefährdungsbeurteilung (in German)
- Katalog technischer Maßnahmen zur Luftreinhaltung, Schriftenreihe der Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, FB 834, Wirtschaftsverlag NW, Bremerhaven, 2001 (in German).

Applying this control guidance sheet "protective measures are adequate" for inhalation exposure according to TRGS 402.
