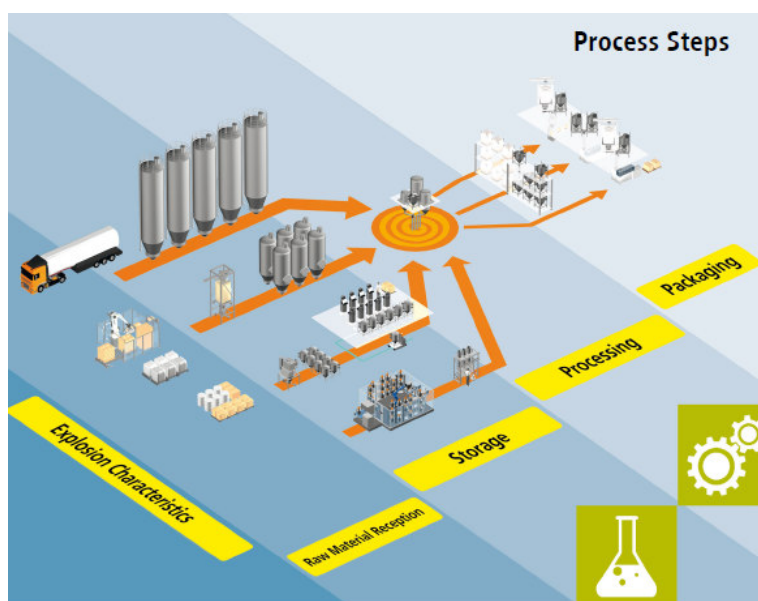


Explosion safety of bulk material plants

Module “Packaging”



The use of complex systems and installations requires a suitable risk assessment for each individual explosion risk.

A modular structure has been developed for the explosion safety of bulk solids systems, which makes it easier to divide the assessment for a system with regard to the explosion risk into smaller units, so-called "modules". In addition to a clear layout, this enables a targeted and process-oriented approach. The overall concept consists of the modules "Explosion characteristics", "Raw material reception", "Storage", "Processing" and "Packaging".

Individual process steps or machines can thus be better evaluated. In the end, only the individual interfaces need to be considered to obtain the overall risk assessment concept.

In the process step, packaging for bulk materials is assessed with regard to the ignition source 'discharges of static electricity'. A distinction is made between the possible types of discharge that can originate from the bulk material and those that can originate from the packaging material. The suitability of a variety of packaging materials depends on their type (e.g. insulating plastic sacks, conductive plastic sacks, paper sacks, drums), volume and the specific resistance of the bulk material, and the necessary measures for safe use are identified.

Furthermore, a distinction is made between solvent-moist and solvent-free bulk solids and the possibility of the presence of flammable gases, vapours and hybrid mixtures is taken into account.

The resulting multitude of possible combinations is presented in tabular form and the respective suitability is illustrated in the form of colour coding.

The module is currently being translated into English.

Further modules are in progress.

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