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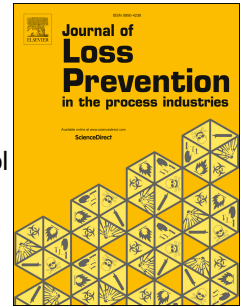
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What About Nudges in the Process Industry?

Exploring a new safety management tool

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Highlights

- Safety nudges are studied as a new approach for safety management
- 9 existing and well proven nudge types are proposed to be used by safety management in the process industry
- An extensive list of nudges and references is provided in the paper
- A development, implementation and evaluation approach for safety nudges in the process industry is suggested

Abstract

Since the nineteen sixties, after the successive introductions of safety equipment, standards, inherently safe process designs, sophisticated safety management systems and a suite of process safety indicators, all that remains to be slayed in 'safe work' would seem to be the person centered part. The presence of major hazard and risk control via well-established safety management systems in the process industry offers a unique opportunity to add safety via nudges. Psychology and behavioural economics have already entered the safety science realm. Behaviour-based safety emerged in the early nineteen eighties and is in need of an upgrade. Where conscious behaviour according to unwritten cultural rules and written instructions are not enough for safety, additional manipulation of unconsciously made choices might be used. This principle, which is called a 'nudge' towards desirable behaviour, is already being applied in e.g. traffic control, public space, politics, energy saving, health care and trade practice. Nudging may have uncertainties about its feasibility and magnitude of its effects, might be developed specifically for certain application areas, might raise ethical concerns and – hence – requires investigation of its application boundaries. The potential of improving safety this way resides in the human error domain and may not only reduce hitherto unaffected unsafe behaviour but also increase rule compliance on legislation, procedures and codes of conduct. This article explores 'safety nudges' and proposes a new safety management tool for influencing behaviour of workers in safety controlled environments in the process industry. Based on currently available evidence, a set of 9 nudge types and an implementation approach are proposed.

Keywords:

Process industry, chemical industry, nudge, behavioural economics, behaviour-based safety

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