

Methodology

Zurich Hazard Analysis: Revealing it all



To manage your risks, you must know your risks.

The Zurich Hazard Analysis (ZHA) is a powerful method for systematically identifying and managing all types of risks. It has been successfully applied for over 20 years in various industrial sectors, ranging from heavy engineering and electronics to the chemical/ pharmaceutical and food and beverage industries as well as service industries such as banking and insurance, and the public sector.

The ZHA can also be applied in a variety of contexts including product design, plant operations and business continuity. It relies on the in-house expertise of those who are most knowledgeable about the component, product or process being analyzed. Its ability to reveal risks makes it one of the most powerful risk management tools. With the ZHA, you make all the key decisions yourself: you determine the gravity of the risks identified and you decide what level of risk you're prepared to tolerate. This level of involvement increases risk awareness and builds confidence in the results of the analysis, making it easier to develop tailored risk improvement measures.

The ZHA is straightforward and simple.

The steps of the process are outlined below:

Define the scope

The scope of the ZHA describes both the content and the boundaries of the product, process or components to be analyzed. A realistically delineated scope takes into consideration the expertise and time available for the analysis.

Choose the team and teamleader

Ideally, the people most knowledgeable about the product, process or components to be analyzed are selected to participate as team members. A teamleader is needed to facilitate the ZHA process. This is the only person on the team who really must understand the ZHA process well.

Identify hazards, define and assess hazard scenarios

Scenarios are developed as the team brainstorms through a 'Pathway', a defined route through the scope of the analysis. The ZHA 'Tickler List', a set of thought provoking words that encourage the team to systematically focus on each type of potential threat, is used to stimulate the thought process and to ensure that hazards are revealed. Once a hazard scenario is identified and documented it is then rated for relative severity and frequency. Both elements determine the significance of the risk.

Build the risk profile, set the risk tolerance boundary and plot the risks

The risk profile is a matrix divided into four severity categories and six probability levels. From a risk management point of view, the most important aspect of the risk profile is the risk tolerance boundary – a segmented line drawn across the risk profile. The risk tolerance boundary establishes the border between tolerable and intolerable risks. Exactly where that line is drawn on the matrix depends on your company's risk management strategy. The risks categorized in the hazard catalog are then plotted onto the corresponding coordinates of the current risk profile. The Risk Profile thus provides you with an instant graphic overview of your risk exposure.

Develop risk improvement actions

Improvement actions are devised to eliminate or reduce the risks above the tolerance boundary. The risk scenarios are re-ranked to take into account the improvement actions. This, then, defines the target risk profile.

Implement the risk improvements

The risk improvement actions developed by the team provide concise direction as to how, when and by whom they should be implemented.

Review the analysis

Given that legal requirements, industrial standards, as well as consumer expectations – and indeed your own processes – continue to change, it will be necessary to periodically review the results of the analysis.

The power of the ZHA

Simplicity

A ZHA project can begin immediately because the methodology is simple and straightforward and the team members only require minimal training.

Efficiency

A ZHA takes less time than other hazard analysis methodologies, because it focuses on risk(s) that you have defined as intolerable.

Visibility

A graphical depiction of the current and target risk profiles lets you 'see' the results of implementing the improvement actions.

Proficiency

The team-based nature of the ZHA brings together individuals who have first hand knowledge and expertise of the scope of the analysis.

Flexibility

The ZHA can be applied across a wide range of industries and at any phase of a process, project or product life cycle.

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