

Description

The preliminary hazard analysis (PHA) is a semi-quantitative risk analysis methods that is used to identify potential hazards and the corresponding top events (risks). The PHA sheet identified as well the required measures and follow-up actions to control the hazard sources. The PHA should consider hazardous components, facilities, safety-related equipment and environmental constraints. The following describes the fields of the PHA:

Hazard	Risk	Causes
1	2	3

Consequences	Probability	Severity	Class	Strategy
4	5	6	7	8

Mitigation/Preventive Measures	Comments
9	10

Field	Description
1	Reference number from the risk matrix
1	Hazard description
2	Risk description
4	Causes of the hazard-based risk
4	Consequences of the hazard-based risk
5	Probability of occurrence
6	Severity of the effects
7	Class of the identified hazard-based risk
8	Strategy to mitigate or prevent the hazard-based risk
9	Action plan to mitigate/prevent the hazard-based risk
10	Any additional comments

Basic procedure

1. Determining the hazard sources and the corresponding risks.
2. Extracting all possible causes that could contribute to the top event.
3. Extracting all possible consequences that could result from the occurrence of the top event.
4. Determining the probability of occurrence and severity of the corresponding risk.
5. Determining the required measures for the mitigation and prevention of risks.

Prerequisites/Aids

PHA template

Effort

Experienced persons are required to investigate all possible causes, consequences and the associated factors which, as quantity, increases the time effort.

Advantages	Disadvantages
<ul style="list-style-type: none"> • Simple method to apply • Overall idea of the possible hazard sources and risks in one picture 	<ul style="list-style-type: none"> • It may over-simplify complex situations, particularly where quantification is attempted

Related Literature

Rausand, M., 2005. Preliminary hazard analysis. Norwegian University of Science and Technology.