

Definitions and Explanations



A **hazard** is a thing or condition that can expose a person to risk of injury or occupational disease. It's any potential source of harm, damage or adverse health effects.

A **hazard inventory** is a compilation of the hazards that employees encounter.

Risk is the potential for loss; the possibility that a person will be harmed – be injured or receive an adverse health effect - when exposed to a hazard.

Crashes have potential to incur a variety of losses - physical and psychological injuries to workers and others, financial costs of repairing or replacing damaged property or correcting negative environmental consequences, and impacts to business processes (for example, lost time, lower productivity and damaged reputation).

Three factors determine how much risk a given hazard can generate:

- **Frequency of Exposure** – how often and for how long workers are exposed to the hazard.
- **Probability of Occurrence** – the likelihood that a MVI or other incident will occur.
- **Severity of Consequences** – the magnitude of loss, negative consequences or impacts.

The following formula explains risk:

$$\text{Risk} = \text{Exposure} \times \text{Probability} \times \text{Severity}$$

TIP

In the risk equation, implementing measures that make any one of the variables zero also makes the risk zero. For example, if no worker is exposed to a hazard, exposure equals zero and risk is zero.

The **Simple Risk Matrix (right)** is a 3 x 3 grid with two variables (severity and probability) and used to evaluate risks.

The **Quantified Risk Score (below)** uses three risk variables (exposure, probability and severity) and applies more precise qualitative criteria and specific values to calculate individual risk scores.

Severity	HIGH	Orange	Red	Red
	MEDIUM	Green	Orange	Red
	LOW	Green	Green	Orange
		LOW	MEDIUM	HIGH
Probability				

Hazard Category	Hazard / Contributing Factor	Frequency of Exposure	Probability of Occurrence	Severity of Consequences	Risk Score
driver	<i>insufficient orientation or training: driver lacks necessary competencies or is unfamiliar with procedures to operate vehicle</i>	6	4	6	144