In most factories, industrial plants and workshops there is a constant compromise between infallible safety systems, the sheer practicality of being able to operate machinery and other equipments productively, and cost. The balancing act is about risk versus perfection. It is also natural to think of human/machine safety as being the need to comply with a pretty uncompromising set of international standards (e.g. ANSI, EC standards, . . . etc) and some governmental local codes on Occupational Health and Safety regulations, when it is really about the safety of people in the workplace. Responsibility can be personal if things go wrong. This paper will review the essentials of how to maintain a modern safety standards, and regulation in industrial plants. The paper will also state the importance of safety in industrial operations. The paper will present definition of the term "accident" and describe the potential results of accidents in industrial operations. It will describe the unsafe conditions and the acts to prevent these accidents. The paper will identify areas of the body's most vulnerable to occupational hazards. Finally, the paper will highlight the importance of government regulations for enforcing safe working conditions in industrial plants.