

Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002

These regulations implement 2 EU directives namely the Chemical Agents Directive (CAD) and the Explosive Atmospheres Directive (ATEX 137). The purpose of the regulations is to protect workers and other who may be at risk from dangerous substances that can cause a fire, explosion or other energy-releasing event.

1.1 Regulation 3: Application

The regulations generally apply both onshore and offshore except for certain parts of the regulations which do not apply offshore because other more specific legislation exists that achieves a corresponding level of safety.

1.2 Regulation 5: Risk Assessment

The Regulations state that where a dangerous substance is or is liable to be present at the workplace, the employer shall carry out a risk assessment to assess the risks to workers and to others who may be affected by the presence of the dangerous substances.

The risk assessment shall also consider the circumstances of the work, maintenance-related activities, likelihood of an explosive atmosphere developing, likelihood of ignition sources and consequences of a fire and/or explosion.

The guidance to the Regulations state that the purpose of the risk assessment is to allow employers to decide on measures that would eliminate or reduce risks from dangerous substances so far as is reasonably practicable.

The risk assessment should be reviewed at regular intervals as the nature of the hazards may change. In addition, employers should review the risk assessment following a dangerous incident.

1.3 Regulation 6: Elimination or reduction of risks from dangerous substances

The Regulations state that a range of measures shall be applied to eliminate or reduce risks from dangerous substances. The measures are ranked according to the following hierarchy:

- a) substitution of dangerous substance
- b) control of risks from presence or use of dangerous substance
- c) mitigation of fire or explosion risks arising from dangerous substance.

The measures cited in the guidance to the Regulation include control measures such as reducing amount of dangerous substances, avoiding/minimising releases and avoiding ignition sources. Mitigation measures include avoiding propagation of fires and explosions, providing explosion pressure relief and explosion suppression.

1.4 Regulation 7: Places where explosive atmospheres may occur

The Regulations state that areas where explosive atmosphere can occur shall be classified into hazardous and non-hazardous workplaces. The hazardous workplaces shall furthermore be classified into zones (extent, frequency and duration of an explosive atmosphere).

The zoning essentially defines the equipment and protective systems requirements so as to prevent sources of ignition.

1.5 Regulation 8: Arrangements to deal with accidents, incidents and emergencies

The Regulations state that the employer shall ensure that procedures, information on emergency arrangements, suitable warning and escape facilities are provided to protect his employees from an accident, incident or emergency related to the presence of a dangerous substance at the workplace.

The guidance to the Regulations adds that the employer must implement those measures necessary for control or containment of an accident or emergency to ensure that there is sufficient time for people to be safely evacuated.

1.6 Regulation 10: Identification of hazardous contents of containers and pipes

The Regulations state that where containers and pipes used for dangerous substances are not marked, a clear means of identifying the contents of those containers and pipes and any associated hazards shall be provided.