



Dangerous Substances and Explosive Atmospheres (Regulations)

(DSEAR) Management and Emergency Procedures

The primary legislation applying to the control of substances that can cause fires and explosions in the workplace is the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) (SI 2002 No.2776).

DSEAR Management: Dangerous substances are substances or mixtures of substances (called 'preparations' in DSEAR) that could create risks to people's safety from fires and explosions or similar events, such as 'thermal runaway' from chemical reactions or are corrosive to metal. Liquids, gases, vapours and dusts that may be found in a school environment can all be dangerous substances.

The following examples illustrate the type of activities covered by DSEAR in a school environment:

- storage of petrol as a fuel
- use of flammable gases, such as acetylene, for welding
- handling and storage of waste dusts in LEVs
- handling and storage of flammable wastes such as fuel oils
- welding or other 'hot work' on tanks and drums that have contained flammable material
- use of flammable solvents in laboratories
- storage and display of flammable goods, such as paints, in classrooms
- filling, storing and handling aerosols with flammable propellants such as LPG
- transporting flammable substances in containers around the school site
- handling, storage and use of gases under pressure
- handling, storage and use of substances corrosive to metal.

All dangerous substances, including chemical wastes, are to be managed in a way that prevents release or explosion. The following general requirements are to be followed. They include:

- **Container Management:**
 - All dangerous substance containers must be in good condition and compatible with the materials stored within.
 - All dangerous substance containers must be accessible and spacing between containers must provide sufficient access to perform periodic inspections and respond to releases.
 - Empty dangerous substance containers (e.g. drums) must have all markers and labels removed and the container marked with the word 'empty'.
 - Any spills on the exterior of the container must be cleaned immediately.
 - Flammable materials stored or dispensed from drums or totes must be grounded to prevent static spark.
 - Do not overfill containers.

- *Good Housekeeping:*
 - All dangerous substances must be stored inside appropriate lockable cabinets inside buildings or under cover;
 - All chemicals that are transferred from larger to smaller containers must be transferred by use of a funnel;
 - All dangerous substance containers should be closed while not in use;
 - Use drip pans or other collection devices to contain drips or leaks from dispensing containers or equipment;
 - Implement preventative maintenance activities to reduce the potential for release from equipment;
 - Immediately clean up and properly manage all small spills or leaks;
 - Periodically inspect equipment and dangerous substance storage areas to ensure leaks or spills are not occurring;
 - Use signage to identify dangerous substance storage or waste collection areas;
 - Keep all work areas and dangerous substance storage areas clean and in good general condition.

- *Marking/labeling:*
 - Ensure all dangerous substances, including chemical wastes, are properly marked and labeled in accordance with DSEAR regulations
 - Ensure that dangerous substances transferred to small containers are marked with the chemicals name (example- "Isopropyl Alcohol") and hazard (example- "Flammable").

Staff Training: Staff involved in the storage or handling of COSHH/DSEAR must receive periodic training on the proper handling of dangerous substances; spill prevention practices, and emergency response procedures. Training must include a review of the DSEAR Management and Emergency Procedures, and a review of location and use of emergency response equipment. Training can be recorded through safety committee meetings, staff training logs, or other equivalent record keeping.

Hazardous Substance Inventory: An inventory must be maintained for all dangerous substance stored on site. Please use the COSHH/DSEAR Risk Assessment Inventory template.

Spill Response Equipment: Spill response equipment must be maintained and located in areas where spills are likely to occur. This will be managed by the Site Team. Spill kits should provide adequate response capabilities to manage any anticipated spill or release. The following general requirements are to be followed: They include:

- Stock spill clean-up kits that are compatible with the dangerous substances stored on site;
- Locate spill kits in areas where spills are likely to occur (site office and storage area, design and technology, science departments, kitchens and locations where hazardous substance are being transferred);
- Spill kits should be sized to managing an anticipated release (spill equal to the largest container);
- Emergency response equipment should be inspected periodically to ensure that the spill kit is complete.

Emergency Response Plan for DSEAR

The Emergency Response Plan is a specific plan for dealing with DSEAR emergencies and shall be implemented immediately whenever there is an explosion, or release of a dangerous substance that threatens human health or the environment. The emergency response plan shall be reviewed and immediately amended whenever:

- The plan fails in an emergency;
- The site changes in its design, construction, operation, maintenance, or other circumstances in a way that increases the potential for explosions, or release of a dangerous substance;
- The list of emergency contacts change; or
- The list of emergency equipment changes.

Response actions in the event of a spill or release:

In the event of a dangerous substance spill or release, immediately take the following measures to keep the spill from entering sewer or storm drains, spreading off-site, or affecting human health. In all cases caution and common sense must be maintained with the primary goal being to prevent and/or limit personal injury.

Stop, contain, and clean up the chemical spill if:

- The spilled chemical and its dangerous properties have been identified;
- The spill is small and easily contained;
- Responder is aware of the chemicals' dangerous properties.

If a spill cannot be controlled or injuries have occurred due to the release the following procedures should be implemented:

- Summon help or alert others of the release;
- Evacuate immediate area, and provide care to the injured - Call 999;
- If potential fire or explosion hazards exist initiate evacuation procedures - Call 999;
- Respond defensively to any uncontrolled spills:
 - Use appropriate personal protective equipment when responding to any spill (eye protection, apron, gloves, mask);
 - Attempt to shut off the source of the release (if safe to do so);
 - Eliminate sources of ignition (if safe to do so);
 - Protect drains by use of adsorbent, booms or drain covers (if safe to do so).
- Notify onsite emergency contact(s) (Site Team);
- Coordinate response activities with local emergency services
- Be prepared to provide MSDS information and COSHH/DSEAR inventory risk assessments to emergency services/hospital

Evacuation Procedures:

In the event of a dangerous substance release that has the potential for fire, explosion or other human health hazards the following procedures will be implemented:

- Staff will be notified of evacuation by one or more of the following method(s): ***(Verbal, Intercom, Portable Radio, Alarm, Other-School to decide)***
- Notification to emergency services will be performed by the person who discovered the spill or the Site Team- Call 999.
- Staff will follow the same evacuation routes as detailed in the emergency evacuation plan for fire, and assemble at designated areas.
- Individuals responsible for coordinating fire evacuations must confirm if the school has been completely evacuated.
- Staff will be made familiar with evacuation procedures during induction, and annual trainings thereafter.
- Designated emergency response contacts as detailed in the emergency evacuation plan for fire, will coordinate all activities with outside emergency personnel.