**Dangerous Substances and Explosive Atmospheres Regulations (DSEAR)**

**Aide Memoire to Section 3 of DSEAR form S30**

**Risk Control Measures**

The purpose of this aide is to lead the assessor through a number of risk control measures which can be used to prevent or mitigate the creation of an explosive atmosphere or energetic event. It is designed to prompt the assessor to consider risk control measures under the particular circumstances identified in Section 2.3 of the DSEAR assessment form (S30).

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| **1.: CONTROL MEASURES – ENGINEERING & DESIGN** | | | | |
| **Action** | **Y** | **N** | **N/A** | **Details** |
| Has the quantity of the dangerous substance stored, or used, been reduced to a minimum? |  |  |  |  |
| Have steps been taken to avoid or minimise releases (intentional or unintentional)? |  |  |  |  |
| Have steps been taken to control releases at source? |  |  |  |  |
| Have steps been taken to collect, contain and remove any releases to a safe place (e.g. ventilation) |  |  |  |  |
| Have steps been taken to prevent the formation of an explosive atmosphere? |  |  |  |  |
| Have steps been taken to avoid adverse conditions (e.g. exceeding temperature limits or other control settings)? |  |  |  |  |
| Are incompatible substances kept apart in storage and so far as reasonably practicable in use (e.g. oxidisers and combustibles)? |  |  |  |  |
| Have substances been adequately identified to prevent them being mixed up and used incorrectly? |  |  |  |  |
| Has the number of people exposed to the dangerous substances or the explosive atmospheres been reduced to a minimum? |  |  |  |  |
| Is plant or equipment in use that is explosion resistant? |  |  |  | Relevant only to hazardous zones – further competent advice must be sought from Safety Services should the assessor judge that zoning is required. (Refer to [DSEAR Local Rules](http://www.strath.ac.uk/media/ps/safetyservices/campusonly/localrules/2012.04.16_-_DSEAR.pdf).) |
| Is explosion suppression or relief provided on equipment or plant? |  |  |  | Relevant only to hazardous zones – further competent advice must be sought from Safety Services should the assessor judge that zoning is required. (Refer to [DSEAR Local Rules](http://www.strath.ac.uk/media/ps/safetyservices/campusonly/localrules/2012.04.16_-_DSEAR.pdf).) |
| Have adequate measures been taken to control or minimise the spread of fire or explosion? |  |  |  |  |
| Has suitable personal protective equipment been provided and have staff been trained to use it properly? |  |  |  |  |

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| **2: CONTROL MEASURES – Workplace, Process and Management Systems Where Appropriate to the Nature of the Activity or Operation** | | | | |
| **Action** | **Y** | **N** | **N/A** | **Details** |
| Is the workplace designed, constructed and maintained so as to provide adequate fire-resistance and/or explosion relief? |  |  |  | Relevant only to hazardous zones – further competent advice must be sought from Safety Services should the assessor judge that zoning is required. (Refer to [DSEAR Local Rules](http://www.strath.ac.uk/media/ps/safetyservices/campusonly/localrules/2012.04.16_-_DSEAR.pdf).) |
| Is any assembly, construction, installation, rig, plant, equipment, protection system etc., designed in such a manner as to minimise the risk of fire and/or explosion? |  |  |  |  |
| Is any assembly, construction, installation, rig, plant, equipment, protection system etc., used in such a manner as to minimise the risk of fire and/or explosion? |  |  |  |  |
| Have appropriate safe systems of work or other required procedural systems of organising work been developed and communicated to all persons who might need to know? |  |  |  |  |
| Is a permit to work scheme required for working with the substance or in the work area, and are these strictly enforced? |  |  |  |  |
| Are storage facilities wind and water tight? |  |  |  |  |
| Is there ample absorbent material available for tackling a spill? |  |  |  |  |
| Are fire extinguishers present and unused? |  |  |  |  |
| Are bunded areas of the workplace or storage facilities intact and watertight? |  |  |  |  |
| If there is mechanical ventilation, is it operational? |  |  |  |  |
| If there is natural ventilation is it clear of any obstruction? |  |  |  |  |
| Are the warning safety signs in place outside the store? |  |  |  |  |

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| **3: CONTROL MEASURES – Zoning and Control of Explosive Atmospheres (If not applicable tick here \_\_\_\_ and proceed to next section)** | | | | |
| **Action** | **Y** | **N** | **N/A** | **Details** |
| Have all work or storage areas been classified into zones in accordance with Schedule 2 of the DSEAR 2002 as required? |  |  |  | Relevant only to hazardous zones – further competent advice must be sought from Safety Services should the assessor judge that zoning is required. (Refer to [DSEAR Local Rules](http://www.strath.ac.uk/media/ps/safetyservices/campusonly/localrules/2012.04.16_-_DSEAR.pdf).) |
| Where necessary have all such classified zones been marked at their entry points with the specified ‘Ex’ hazard warning sign? |  |  |  |  |
| Are all classified zones appropriately protected from sources of ignition through the selection of equipment and protective systems compliant with the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 1996? |  |  |  |  |
| Are people working in zoned areas provided with clothing that does not create a risk of electrostatic discharge? |  |  |  |  |
| Before their first operation, have areas where explosive atmospheres may be present been verified as being safe by a competent person? |  |  |  |  |

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| **4: CONTROL MEASURES – Storage (If not applicable tick here \_\_\_\_ and proceed to next section)** | | | | |
| **Action** | **Y** | **N** | **N/A** | **Details** |
| Are all flammable substances kept in suitable fire resistant storage? |  |  |  |  |
| Are all quantities of flammable substances in excess of 50 Litres kept in dedicated and appropriately protected flammable stores? |  |  |  | Where this is the case a separate DSEAR assessment will be required for the storage area. |
| Are incompatible substances stored apart (e.g. flammables, oxidisers, combustibles, flammable gases, LPG? |  |  |  |  |
| Where appropriate, have storage facilities been designed to provide explosion relief or resistance? |  |  |  | Relevant only to hazardous zones – further competent advice must be sought from Safety Services should the assessor judge that zoning may be required. (Refer to [DSEAR Local Rules.)](http://www.strath.ac.uk/media/ps/safetyservices/campusonly/localrules/2012.04.16_-_DSEAR.pdf) |
| Is the store clear of clutter on the floor? |  |  |  |  |
| Are all containers on shelves below shoulder height? |  |  |  |  |
| Are all containers arranged neatly on shelves and all standing upright? |  |  |  |  |
| Are all containers in good condition and clearly labelled? |  |  |  |  |
| Are all containers within their shelf life or expiry date? |  |  |  |  |
| Is the store free from the smell of solvents? If not, check (a) Ventilation, (b) activities taking place in store, (c) integrity of containers and seals. |  |  |  |  |
| Are there no other substances/materials other than flammable substances present in the store? |  |  |  |  |
| Is there ample absorbent material available for tackling a spill? |  |  |  |  |
| Are the fire extinguishers present and unused? Are they in date? |  |  |  |  |
| Is the area outside, next to the store free from flammable materials? |  |  |  |  |
| Is the area outside the store free from any activities taking place that could generate an ignition source (running motors, grinding, drilling, welding, smoking etc? |  |  |  |  |
| Is the area outside the store free from anything that would be affected by a fire in the store? |  |  |  |  |

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| **5: CONTROL MEASURES – Emergency Procedures (DSEAR Local Rule page 8)** | | | | |
| **Action** | **Y** | **N** | **N/A** | **Details** |
| Have suitable emergency procedures been developed and communicated to personnel to deal with adverse process conditions (e.g. exceeding limits of temperature, or other control settings)? |  |  |  |  |
| Have suitable emergency procedures been developed and communicated to personnel to deal with fire and evacuation? |  |  |  |  |
| Have suitable emergency procedures been developed and communicated to personnel to deal with a spillage of dangerous substances? |  |  |  |  |
| Have suitable emergency procedures been developed and communicated to personnel to deal with an incident out with normal working hours? |  |  |  |  |
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| **6: CONTROL MEASURES – Waste Disposal** | | | | |
| **Action** | **Y** | **N** | **N/A** | **Details** |
| Have suitable procedures been developed, communicated and implemented to deal with the safe transport and disposal of dangerous substances? |  |  |  |  |
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| **7: CONTROL MEASURES – Information, Instruction and Training (DSEAR Local Rule Page 8)** | | | | |
| **Action** | **Y** | **N** | **N/A** | **Details** |
| Has appropriate information, instruction and training commensurate with the hazard potential of the dangerous substances or process been provided to personnel as regards; product details, hazard, risk control measures to be employed, management systems to be followed, emergency systems etc.? |  |  |  |  |