

DSEAR ASSESSMENT — FLAMMABLE SUBSTANCES

ASSESSMENT — SITE OR STORE FILE

LPG, fuels, solvents, adhesives and resins — quantities, storage, use, ignition, measures, zoning, emergencies

KD-FIRE-DS-010 Rev A0

The fire and explosion assessment for flammable substances. Their effects on health are the KD-COSHH assessments (for example KD-COSHH-LP-013 LPG, KD-COSHH-FU-012 petrol and diesel, KD-COSHH-SV-007 solvents, KD-COSHH-CA-033 contact adhesives); hot works are controlled by permit (KD-PTW-HW-001) and logged on KD-FIRE-HR-004. DSEAR 2002 reg 5: where a dangerous substance is or is liable to be present, the employer assesses the risks, considering the matters reg 5(2) lists, and keeps the assessment up to date. With five or more employees the significant findings are recorded (reg 5(4)), including in particular: (a) the measures taken or to be taken; (b) enough to show that the workplace and work processes are designed, operated and maintained with due regard for safety and that adequate arrangements under PUWER 1998 have been made for the safe use of work equipment; and, where an explosive atmosphere may occur, (c) the places classified into zones, the equipment required for or helping to ensure the safe operation of equipment in those places, that the reg 7(4) verification has been carried out, and the aim of any reg 11 co-ordination with the measures and procedures for it. Where the Regulatory Reform (Fire Safety) Order 2005 applies — the premises, or a construction site — the fire risk assessment considers dangerous substances (art 9(2)) and is recorded whatever the number of employees (art 9(6)), so keep this record even with fewer than five. No new work activity involving the substance starts until the assessment is made and the measures are in place (reg 5(5)). Reg 6 requires the risk to be eliminated or reduced, by substitution by preference; reg 7 requires places where an explosive atmosphere may occur to be classified into zones; reg 8 covers accidents and emergencies, reg 9 information and training, and reg 11 co-ordination where employers share a workplace where an explosive atmosphere may occur. DSEAR 2002 applies in England, Wales and Scotland; Northern Ireland has its own regulations. Where the premises or site fire risk assessment (KD-FIRE-PF-009, KD-FIRE-RA-001) found dangerous substances, this is the assessment it points to.

1 THE WORKPLACE AND THIS ASSESSMENT

SITE / PREMISES REF	SITE OR PREMISES	DATE ASSESSED	ASSESSED BY
WORKPLACE	EMPLOYER RESPONSIBLE FOR THE WORKPLACE (REG 11)	FIVE OR MORE EMPLOYEES?	REV / SUPERSEDES

2 SUBSTANCES AND QUANTITIES (REG 5(2)(A) TO (C))

One line per product. Take the hazard information from section 2 and section 9 of the supplier's safety data sheet — write it in; this sheet prints no flash point or classification.

SUBSTANCE / PRODUCT	FORM	FLAMMABILITY (SDS)	MAX HELD	CONTAINER	SDS DATE	COSHH REF

3 STORAGE

STORE / LOCATION	SUBSTANCES KEPT	MAX HELD	BUILD / VENTILATION	SEPARATION / ACTUAL	CONTAINMENT

- Only the quantity needed is held; surplus returned or removed
- Containers closed, labelled and undamaged; incompatible substances kept apart as the safety data sheets require
- Gas cylinders stored in the open or a ventilated store, upright and secured, valves closed, away from drains, basements, openings and exits
- Stores are not in or under escape routes, stairs or site accommodation, and are secured against unauthorised access and arson

4 USE AND HANDLING (REG 5(2)(C) AND (D))

TASK	SUBSTANCE	WHERE	QTY IN USE	HOW RELEASED	CONTROLS

Decanting and refuelling in a ventilated area away from ignition sources, engines off, over a drip tray, with a spill kit to hand

Rags and wipes contaminated with solvent or resin kept in a closed metal bin and removed from the building at the end of the shift

Hoses, regulators and connections on gas appliances checked before use; leaks found by the method the manufacturer gives, never by a flame

Gases and vapours heavier than air, such as LPG, allowed for: no use or storage where they could collect in basements, pits, drains or trenches

"Empty" containers treated as still holding vapour until cleaned or removed

5 IGNITION SOURCES (REG 5(2)(G))

Hot work — none near the substances except under permit (KD-PTW-HW-001), logged on KD-FIRE-HR-004

Smoking, vaping and naked flames — prohibited in and near stores and areas of use, and signed

Electrical equipment, lighting and heaters — none in a zoned place unless selected for that zone (section 9)

Engines, exhausts and hot surfaces — kept away from stores and from where vapour could collect

Static — containers bonded or earthed where the safety data sheet or the competent person requires; clothing as section 9

Battery charging and portable electronic devices — kept out of stores and zoned places

Arson — stores locked and away from the perimeter

OTHER IGNITION SOURCE PRESENT	WHERE	CONTROL

6 LIKELIHOOD AND CONSEQUENCES (REG 5(2)(F), (H) AND (I))

COULD AN EXPLOSIVE ATMOSPHERE OCCUR?	SCALE OF A FIRE OR EXPLOSION	CONNECTED PLACES

7 ELIMINATION AND REDUCTION MEASURES (REG 6)

Substitution comes first (reg 6(2)): a substance or process that removes or reduces the risk — water-based adhesive, cold-applied membrane, battery tools instead of petrol. Where the risk cannot be eliminated, reg 6(4) sets the control measures in order of priority: reduce the quantity to a minimum; avoid or minimise release; control release at source; prevent an explosive atmosphere forming, including by ventilation; collect, contain or remove any release that may give rise to risk; avoid ignition sources, including electrostatic discharges, and adverse conditions; segregate incompatible substances. Reg 6(5) sets the mitigation measures: the fewest employees exposed; avoiding the spread of fire or explosion; explosion relief, suppression or pressure-resistant plant where relevant; suitable PPE. The conditions that do so are maintained (reg 6(7)).

SUBSTITUTION CONSIDERED

QUANTITY REDUCED TO

CONTROL AND MITIGATION MEASURES DECIDED

8 DESIGN, OPERATION AND MAINTENANCE (REG 5(4)(B))

The record shows that the workplace and work processes are designed, operated and maintained with due regard for safety, and that adequate arrangements under PUWER 1998 have been made for the safe use of work equipment.

WORKPLACE AND PROCESSES — DESIGNED, OPERATED AND MAINTAINED WITH DUE REGARD FOR SAFETY

WORK EQUIPMENT	INSPECTED / MAINTAINED BY	INTERVAL	LAST DONE	NEXT DUE	RECORD KEPT AT

9 HAZARDOUS AREA CLASSIFICATION (REG 7) — ONLY WHERE SECTION 6 FOUND AN EXPLOSIVE ATMOSPHERE MAY OCCUR

Zoning is a competent person's work. Places where an explosive atmosphere may occur are classified into zones — for gases and vapours, from a place where one is present continuously or for long periods to one where it is not likely in normal operation and short-lived if it occurs; dusts have their own zones — and equipment in each zone is selected for it. Before a workplace with zoned places is used for the first time, its overall explosion safety is verified by a person competent in explosion protection (reg 7(4)). This sheet records who did it; it does not do it. Reg 3(2)(b): regs 5(4)(c), 7 and 11 do not apply to gas appliances burning gaseous fuel that are used for cooking, heating, hot water production, refrigeration, lighting or washing (with, where applicable, a normal water temperature not exceeding 105°C) — a welfare heater or cooker is not zoned under this section, though its fire risk is still assessed.

- ☐ Not applicable — the assessment in section 6 found no place where an explosive atmosphere may occur
- ☐ Applies — places classified into zones by the competent person named below; the drawing is attached

CLASSIFIED BY

ZONE DRAWING REF / REV

EXPLOSION SAFETY VERIFIED (REG 7(4))

EQUIPMENT NEEDED FOR THE SAFE OPERATION OF EQUIPMENT IN ZONED PLACES (REG 5(4)(C)(III))

- ☐ Equipment and protective systems in each zone selected for that zone (reg 7(2))
- ☐ Entry points to zoned places marked with signs where necessary (reg 7(3))
- ☐ Work clothing that does not give rise to electrostatic discharges provided for use in zoned places (reg 7(5))

10 ACCIDENTS, INCIDENTS AND EMERGENCIES (REG 8)

SPILL OR LEAK PROCEDURE

FIRE AT THE STORE OR AREA OF USE

WARNING AND ESCAPE

- ☐ Procedures prepared, including first aid and safety drills, and tested regularly (reg 8(1)(a))
- ☐ Warning and communication systems in place so that remedial action and rescue can start immediately (reg 8(1)(c))
- ☐ Where necessary, visual or audible warnings given and people withdrawn before explosion conditions are reached (reg 8(1)(d))
- ☐ Where the assessment shows it necessary, escape facilities provided and maintained so people can leave endangered places promptly and safely (reg 8(1)(e))
- ☐ After an event: immediate steps to mitigate it, restore normal conditions and inform those affected; only people essential for the repairs enter the affected area, with suitable PPE and equipment (reg 8(3))
- ☐ Information on the arrangements and the hazards made available to the emergency services and displayed at the workplace, unless the assessment makes that unnecessary (reg 8(2))
- ☐ Cylinder and store locations given to the fire and rescue service on the site plan or premises information

Reg 8(4): paragraphs (1) to (3) do not apply only where BOTH (a) the results of the risk assessment show that, because of the quantity of each dangerous substance at the workplace, there is only a slight risk to employees, AND (b) the measures taken to comply with reg 6(1) are sufficient to control that risk. If either is not shown, the arrangements above apply.

REG 8(4) EXEMPTION RELIED ON?

11 INFORMATION, INSTRUCTION AND TRAINING (REG 9)

PERSON OR GROUP	EMPLOYER	BRIEFED ON	BY	DATE

12 CO-ORDINATION WITH OTHER EMPLOYERS (REG 11) — WHERE AN EXPLOSIVE ATMOSPHERE MAY OCCUR

OTHER EMPLOYERS SHARING THE WORKPLACE	AIM OF THE CO-ORDINATION (REG 5(4)(C)(IV))	MEASURES AND PROCEDURES FOR IT

13 SIGNIFICANT FINDINGS AND ACTIONS (REG 5(4)(A))

NO.	FINDING	H/M/L	ACTION OR CONTROL REQUIRED	OWNER	BY	DONE

14 REVIEW (REG 5(3))

Review the assessment regularly, and whenever there is reason to think it is no longer valid or there has been a significant change — a new substance, a larger quantity, a new store, a change of process or of the people exposed, or an incident.

DATE	REASON FOR REVIEW	WHAT CHANGED	BY

15 SIGNATURES

Assessed by:

PRINTED NAME	ROLE	COMPANY	SIGNATURE	DATE	TIME

For the employer responsible for the workplace:

PRINTED NAME	ROLE	COMPANY	SIGNATURE	DATE	TIME

R REVISION HISTORY

Every revision of this document, and every review that found nothing to change. The revision on the front of this sheet is the one you are holding — check kubitdocs.com for the current one before use.

Rev	Date	Class	What changed	Authorised by
D0	2026-09-12	first-issue	First issue.	— not yet approved —
A0	2026-09-12	review	Approved for issue by the author. Content unchanged from the reviewed draft; the draft status strip is removed. No independent third-party review has been carried out.	Author — director, UK principal contractor, SMSTS. Not an independent review.

Class: first-issue · material (the law, a control, a field or the scope changed — past buyers are notified) · editorial (wording or layout only) · review (checked, nothing changed) · withdrawal. Revision prefix D = draft, not approved and not for sale; A = approved for issue by the person named, on the date shown.