CSP Exam — Quick Reference

Certified Safety Professional · BCSP Current Blueprint

Safety Metrics

Metric	Formula	Benchmark / Notes
TRIR	(recordables × 200,000) / hours worked	200,000 = 100 emp × 40 hr × 50 wk
DART rate	(DART cases × 200,000) / hours worked	Days Away, Restricted, Transfer
Severity rate	(lost days × 200,000) / hours worked	Measures days lost, not frequency
Risk score	Severity × Probability	Risk matrix cell value

Hierarchy of Controls (most effective → last resort)

Rank	Control	Example
1	Elimination	Remove the hazard entirely
2	Substitution	Replace with safer alternative
3	Engineering	Ventilation, guards, interlocks
4	Administrative	Procedures, training, rotation
5	PPE	Last line of defense

Noise Exposure (OSHA 1910.95)

Item	Value	Action Required
Action level	85 dBA TWA (8 hr)	Enroll in hearing conservation program
PEL	90 dBA TWA (8 hr)	Engineering/admin controls required
Exchange rate	5 dB (OSHA) / 3 dB (NIOSH)	Halve exposure time for every +5 dB
Dose formula	$D = 100 \times \Sigma(C_i / T_i)$	Dose ≥ 50% → hearing program

Ventilation & Industrial Hygiene

Formula	Equation	Use
Airflow	$Q\ (cfm) = V \times A$	Flow rate for duct sizing
Dilution ventilation	$Q = (G \times K) / C_TLV$	G = generation rate, K = safety factor
TWA	$TWA = \Sigma(C_i \times T_i) / \Sigma\ T_i$	Time-weighted average concentration
NIOSH Lifting Index	LI = Load / RWL	LI > 1 elevated risk; > 3 most workers at risk
RWL	$RWL = 51 \times HM \times VM \times DM \times AM \times FM \times CM$	Recommended Weight Limit

Respirator Assigned Protection Factors (APF)

Type	APF	Use Case
Half-face APR	10	Dust, low-concentration vapors
Full-face APR	50	Moderate irritant/IDLH alternative
PAPR (loose-fit)	25	Powered air, better comfort
PAPR (tight-fit, full)	1,000	High-concentration hazards
SCBA (pressure-demand)	10,000	IDLH, unknown atmospheres

Fire Safety Quick Facts

- Fire classes: A = ordinary combustibles · B = flammable liquids · C = electrical · D = combustible metals · K = kitchen grease.
- Travel distance to exit (non-sprinklered): ~200 ft typical.
- Exit width: ≥ 32 in clear; 0.2 in/occupant level, 0.3 in/occupant stairs.
- Sprinklered occupancies may extend travel distance; check NFPA 101 table.

Key Regulations to Memorize

- OSHA 1910 — General Industry · OSHA 1926 — Construction · 1904 — Recordkeeping.
- 1200 HazCom/GHS · 1910.147 LOTO · 1910.146 Confined Space · 1910.134 Respiratory · 1910.120 HAZWOPER.

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