

Solvent Vapors: Verify Airflow Before Opening

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Why this matters

Opening a solvent starts an exposure beyond the person using it. An open door or running fan does not establish safe breathing conditions.

Objective: Confirm the assessed vapor controls and ignition precautions before use.

Key hazards or failure points

Vapor buildup; changed enclosure; ineffective exhaust; ignition sources; unsuitable respiratory protection.

Practical controls

- Have the employer assess the actual product, amount, application and location. Use an approved lower-exposure method where feasible; assess health and fire hazards separately.
- Install specified ventilation and keep emissions away from workers and occupied areas. Use equipment suitable for the assessed atmosphere; control ignition sources before opening.
- Keep containers closed when not in use under the applicable procedure. Use selected skin, eye and respiratory protection; a particulate mask does not control solvent vapor.

Verify It in the Field

Match the product and planned use to the assessment. Include nearby trades, air intakes and new walls or doors that change the work area.

Have the designated technical person verify ventilation using its specified performance method and criteria. Record the result; fan noise or lack of odor is insufficient.

Confirm ignition precautions, protection and exit route before exposure. Ask who will stop work if ventilation fails or another trade introduces hot work.

Stop and reassess

Leave for symptoms, control failure, unexpected vapor release or changed conditions. Warn others and obtain reassessment before return; never enter suspect air to investigate or rescue without the designated capability.

Ask the crew

1. Where does the exhaust go?
2. What proves ventilation performance?
3. What change would invalidate today's assessment?

Use this HOP tool — Job-site review: Before opening containers, walk the clean area and compare today's enclosure, exhaust destination and neighboring work with the plan. Name one change that could defeat vapor control. Assign its verification and notification owner; do not release solvent to demonstrate airflow.

Sources: OSHA 1926.55, 1926.103, 1926.152; DOE Vol. 2, pp. 8–9. HOP concepts adapted from DOE-HDBK-1028-2009, Vol. 2 (June 2009). No claim to original U.S. Government work; no government endorsement implied.

Free next step: JHA/JSA planning and field-verification worksheet

Expanded guidance and separate forms: toddjeromejenkins.com/toolbox-talks/solvent-vapors-ventilation-ignition