

MILITARY / COMMERCIAL AVIATION



Penair HD-1 is a unique, biodegradable blend of natural hydrocarbon solvent, corrosion inhibitors and surfactants with added carbon removers. It is effective on the toughest aircraft soils, including exhaust carbon, hydraulic oils, boot prints, solid film lube and wet stacking.

Penair HD-1 replaces cleaners that contain toxic or environmentally harmful ingredients, and reduces volatile organic vapor emissions compared to other solvent cleaners. A concentrated cleaner, **Penair HD-1** is formulated to be economical to use when diluted with water.

Penair HD-1 is the result of five years of research by **West/Penetone** labs and rigorous field evaluation by the U.S. Air Force. Replacing hazardous petroleum and chlorinated solvents with **Penair HD-1** will assist aircraft maintenance personnel in complying with today's stringent EPA and OSHA standards.

FEATURES AND BENEFITS

- Biodegradable
- Non-toxic
- Near neutral pH
- No petroleum or chlorinated solvents
- Heavy-duty cleaner
- Improves worker safety
- Improves aircraft appearance
- Reduces man-hour requirements
- Non-corrosive to aerospace metals
- Reduces cleaning costs

Use procedures

Apply **Penair HD-1** with non-atomizing coarse pressure spray, foam equipment, or bucket and brush. Allow 3 to 8 minutes dwell time, depending on the soils to be removed. Agitate and rinse with water.

Concentration

Light soils: 1:4 to 1:20
Moderate soils: 1:2 to 1:4
Heavy soils: 1:1 to 1:2

Dip Tank Operations

Dilute **Penair HD-1** with a minimum of two parts water unless otherwise specified by technical order. Dilute with two parts water for heavier soils. For lighter soils, 10 parts water may be used.

PENAIR® HD-1

AIRCRAFT/AEROSPACE EQUIPMENT CLEANER

PHYSICAL PROPERTIES

Appearance	Clear amber liquid
Odor	Mild citrus
pH	About 9
Freezing Point	About 30°F
Boiling Point	About 212°F
Flash Point (TCC)	125°F, 155°F COC
Relative Density	0.97
Auto-Ignition Temperature	Not determined
Water Solubility	Emulsifies
Viscosity	5-25 CP at room temperature

INCOMPATIBILITY
Strong oxidizing agents.

WAREHOUSING PRECAUTIONS
Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. Do not store near heat, sparks, open flame, or other ignition sources. Do not store in direct sunlight. Avoid storing above 120°F (49°C).

APPROVALS
MIL-PRF-87937D Type 1

AVAILABLE SIZES
5 gallon Pail
55 gallon Drum

FIRST AID MEASURES

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists or develops: Get medical advice or attention. Penetone recommends that after any eye exposure a physician be seen immediately.

If swallowed: Immediately call a poison center, doctor, physician or other competent medical authority. Rinse mouth. Product presents an aspiration hazard. DO NOT INDUCE VOMITING.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center, doctor, physician or other competent medical authority if you feel unwell.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. A mild soap may be used to wash skin. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice or attention.

PERSONAL PROTECTION Security equipment



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IMPORTANT: Before using **PENAIR HD-1**, always be sure to read and follow precautions and directions for use appearing on the product container label and on the safety data sheet (S.D.S).



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