



# PENAIR® HD-4

## Aircraft/Aerospace Equipment Cleaner

### FEATURES/BENEFITS

#### Features

Biodegradable  
Non-toxic  
Near neutral pH  
No petroleum or chlorinated solvents  
Heavy-duty cleaner  
QPL to MIL-PRF-87937D Type IV  
Low VOC's

#### Benefits

Reduces hazardous waste  
Improves worker safety  
Reduces eye and skin problems  
Improves aircraft appearance  
Reduces maintenance  
Non-corrosive to aerospace metals  
Reduces cleaning costs

*Penair HD-4* is available in 5 gallon pails, 55 gallon drums, totes and bulk deliveries.

### Description

*Penair HD-4* is a biodegradable aircraft cleaner specifically designed for use on all types of aerospace equipment, including aircraft exteriors and aerospace ground equipment (AGE). *Penair HD-4* is a mild liquid alkaline cleaner containing corrosion inhibitors and heavy duty surfactants that make it highly effective on the toughest of aircraft soils, including exhaust carbon, hydraulic oils, boot prints, and solid film lube. *Penair HD-4* complies with MIL-PRF-87937D Type IV aerospace equipment cleaning specification and is authorized for use on all aircraft surfaces and aerospace ground equipment (AGE).

*Penair HD-4* replaces cleaners that contain toxic or environmentally harmful ingredients thereby allowing aircraft maintenance personnel to comply with stringent EPA and OSHA standards. *Penair HD-4* has no flash or fire point and eliminates any storage or handling problems. Additionally, *Penair HD-4* contains low levels of VOC's, lessening problems with regards to air quality in non-attainment areas.

### Directions For Use

#### Dip Tank Immersion:

Dilute the concentrate with a minimum of two parts water unless otherwise specified in technical order (TO). Normal dilution ratios are 1:4 for heavy soils, 1:10 for light soils.

#### External Cleaning Method:

**Aircraft:** Dilute the concentrate 1:10 to 1:20 with water depending on the amount of soil to be removed. For spot cleaning, dilute the concentrate with 4 to 10 parts water. After cleaning, rinse off with water. Ensure engines are properly blocked and sealed to preclude contact with internal jet engine components. *Penair HD-4* is not recommended for cleaning canopies.

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## **PENAIR HD-4**

### **Aircraft/Aerospace Equipment Cleaner**

Page 2

#### **Directions for Use (continued)**

**Aerospace Ground Equipment (AGE):** Dilute the concentrate 1:10 to 1:20 with water depending on the amount of soil to be removed. For spot cleaning, dilute the concentrate with 4 to 10 parts water depending on the amount of soil to be removed. After cleaning, rinse off with water.

**Motor Vehicle Engines:** Dilute the concentrate with 3 to 10 parts water depending on the amount of soil to be removed. After cleaning, rinse off with water. Not recommended as a spot cleaner for engines.

***IMPORTANT: Before using PENAIR HD-4 always be sure to read and follow warnings and directions for use appearing on the product container label, MSDS and applicable current technical manual. (Apr04)***