



PRODUCT LINES

Technical Bulletin

Effective January 2005

PRODUCT DATA: #216
FLUID FILM®
PENETRANT,
LUBRICANT and
CORROSION PREVENTATIVE (NAS)

NATIONAL STOCK NUMBER	
12 OZ, 12 CTN NON-AEROSOL:	8030-01-381-6357
1 GAL, 4/CTN NON-AEROSOL:	8030-01-386-3871
5 GAL PAIL NON-AEROSOL:	8030-01-387-1070
55 GALLON DRUM	

FLUID FILM[®] PENETRANT, LUBRICANT and CORROSION PREVENTATIVE NAS belongs to a family of FLUID FILM[®] products, essentially non-toxic, long lasting, thixotropic liquids that have been used for over fifty (50) years in the highly corrosive marine environment of ships and offshore drilling rigs. More recently, FLUID FILM[®] products have been introduced and successfully utilized in the aerospace, aircraft and automobile industries as well as for home maintenance. Facilities where they are used include the following: Government facilities, commercial fishing concerns, gas companies, agriculture, salt plants, municipal plants, power plants, manufacturing plants and pulp and paper mills.

FLUID FILM[®] NAS is formulated from specially processed wool-wax, highly refined petroleum oils and selected agents to provide corrosion control, penetration, metal wetting and water displacement. These long lasting products contain no solvents, will not dry out and will penetrate through rust to the base metal, providing corrosion protection from both natural and industrial atmospheres. Heavily corroded and/or frozen parts such as nuts, bolts, shafts, etc. that would normally be damaged during maintenance, can be salvaged by applying **FLUID FILM[®] NAS**.

NOTE: Environmentally friendlier: **NAS** is solvent free and essentially non-toxic.

PROPERTIES: (TYPICAL)

APPEARANCE: Light milky liquid which becomes clear amber on exposure to air.

VISCOSITY: 3200 - 6400 centipoises @ 70°F.
Brookfield HBF
#2 Spindle @ 2 RPM

FLASH POINT 400°F minimum.
(ASTM-92)
Cleveland Open Cup

NON-VOLATIVE: 89% minimum (3 hours @ 220°F)

SPECIFIC GRAVITY:	0.875 - 0.885
SPECIFIC CONDUCTIVITY:	Less than 10^{-9} mho/cm @ 1 Hz.
EFFECT ON RUBBER: ASTM D-471 @ $\pm 158^{\circ}\text{F}$ 70 hours	None on neoprene, buna-n and most synthetics. Some swelling on natural and butyl rubbers.
EFFECT ON PAINT:	None on most painted surfaces.
EFFECT ON ALUMINUM:	No pitting.
EXTREME PRESSURE: ASTM D-2782 Timken Method	Fail load - 15 pounds.
WEAR PREVENTION - CHARACTERISTICS: ASTM D-220 Four Ball Method	40 Kg., 1200 RPM for 1 hour @ 167°F . Results: Scar diameter of 0.49mm.
REPAINTABILITY:	Contain no silicones. It is recommended that surfaces treated with FLUID FILM [®] NAS be hot water or steam detergent washed (120°F), whichever is most effective.
CORROSION PROTECTION: ASTM D-1735 Humidity Cabinet	Passes 50 days.
ASTM D-1748 Humidity Cabinet	Passes 30 days.
	Corrosion Requirement (Mil-C-16173, Grade 2 -Soft Films), passes 5%. Salt Fog, passes 1298 hours.
WATER REPLACEMENT:	Displaces water from all metal surfaces (Mil-C-23411, Paragraph 3.6)
TOXICITY:	Extremely low, LD-50 greater than 3 grams per kilogram. Non-irritating skin response. Very slight irritation to the eyes. (Toxicity tests performed according to standard methods by an independent laboratory).
WARNING:	Combustible. Keep out of reach of children.

This document is subject to revision without notice.



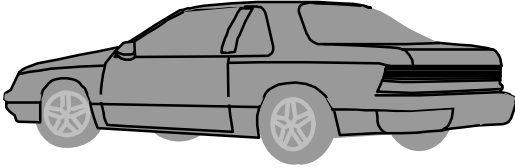
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East Coast Division: Newport News, VA Tel (757) 873-1355 or 1-888-Eureka3 Fax (757) 873-7627

AUTOMOBILE

1. All nuts, bolts and studs
2. Mechanical parts such as:
 - a. Brake levers
 - b. Brake cable (emergency), speedometer cable.



- c. Hood and trunk mechanisms
 - d. Door hinges, opening and locking mechanisms.
 - e. Window mechanisms.
3. Seat moving tracks and locks.

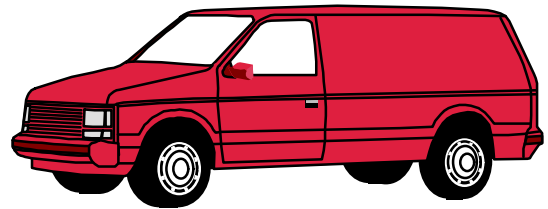
4. Tools.
5. Inside hub caps.
6. Wheel lugs
7. Preservation inside doors.
8. Uncovered springs.
9. Battery post and connectors.

**EXCELLENT
VEHICLE
UNDERCOATING
CORROSION
PREVENTATIVE**

**(AVAILABLE IN BULK)
3.79L, 20L, 208L**

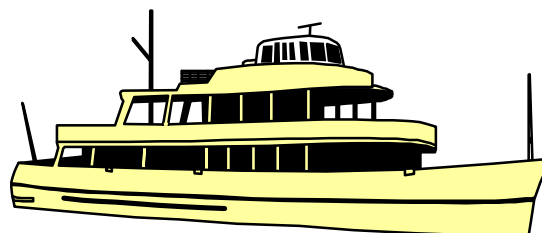
TRUCKS

1. Trailer attachments.
2. Truck bed bolts.
3. Blocks, turnbuckles.
4. Wire tie-downs



MARINE

1. Valves, stems, valve bonnets.
2. Port hole doggings and hinges.
3. Water tight door hinges and mechanism
4. Elevator and dumb waiter guides.
5. Telegraph mechanism.
6. Furniture drawers and glides.
7. Signal light mechanism.
8. Chain falls, come-alongs, push and pull jacks.
9. Wire rope.
10. Machined surfaces, lathes, drills, shapers.
11. Nuts, bolts, studs, tools.
12. Exposed gear teeth.
13. Turnbuckles.
14. Clapper valve mechanism.
15. Piping and pipe joints.
16. Hatch doggings.
17. Throttle control mechanism.
18. Bright work (brass).
19. Winch brake mechanism.
20. Winch control mechanism.
21. Generator cooler heads.
22. Pelican hooks and tunbuckles, anchor chains.
23. Rudder machined surfaces.
24. Inside switch box doors.
25. Life boat falls.
26. Emergency steering blocks and sheaves.
27. Life line turnbuckles.
28. Forced draft blower mechanisms.
29. All blocks and sheaves.
30. Water tight deck drain enclosures.
31. All metal exposed to atmosphere or salt spray.
32. Battery posts and connectors.



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