



Performance Under Pressure Since 1893

TECHNICAL DATA SHEET



BioSwitch™

BIODEGRADABLE SWITCH PLATE LUBRICANT

Whitmore's BioSwitch™ protects switch plates from wear by forming a protective layer of solid lubricants. After it is applied, the fluid begins to dry on the switch, although it will retain some wetness and does not become powdery. As the switch operates, the lubricant "plates out" and the protective coating becomes denser in the contact area. This dense layer is not sticky and does not attract dirt.

BioSwitch™ is biodegradable as measured by the Modified Sturm test.

HOW TO APPLY:

Whitmore's BioSwitch™ can be applied by pouring, brushing, or spraying. Completely cover the switch with the thinnest layer possible.

RAIN:

BioSwitch™ can be applied to wet switches, and it won't wash off in the rain. As the coating dries, it becomes even more resistant to rain.

FREQUENCY OF LUBRICATION:

With BioSwitch™, a switch that operates twice as often does not need lubrication twice as often. The following are general guidelines regarding lubrication frequency using BioSwitch™.

Normal to Heavy: Weekly

Infrequent: Monthly

Switches operating in very severe conditions may require lubrication twice a week.

BioSwitch™ has been certified by the USDA as biobased, and has earned USDA BioPreferred designation.

BENEFITS:

- REDUCES FRICTION AND WEAR – low coefficient of friction facilitates ease of switch operation. This minimizes effort and risk of injury.
- LONG LASTING PROTECTION – less frequent reapplication saves time and lowers consumption.
- WIDE TEMPERATURE RANGE – one grade is suitable for year-round use.
- EASY TO APPLY – it can be poured, brushed, or sprayed.
- RESISTS CONTAMINANTS – does not attract dirt.
- BioResponsible™ – helps reduce the impact on the environment.

PACKAGING:

BioSwitch™ is available in pails, kegs, drums, and one-way bulk totes. Also available through a bulk lubricant delivery system that can be designed to meet your switchyard operational needs.

Product tends to separate. If possible, store container upside-down. Shake or stir before use. For larger containers a compressed air line can be inserted to create agitation.

ASTM #		TYPICAL CHARACTERISTICS
D-2983	Viscosity (Brookfield Viscometer) Spindle 2 @ 5 rpm @ 77°F (25°C), cps	2,100
D-97	Pour Point, °F (°C)	-15 (-26)
Gardner Method	Density, lb/gal @ 60°F (15.5°C) Specific Gravity, g/cc @ 60°F (15.5°C)	7.96 0.956
D-92	Flash Point, °F (°C) Cleveland Open Cup (Base Oils)	>500 (260)
D-2596	Four Ball EP Weld Point, kg	400
D-2266	Four Ball Wear Scar Width, mm	0.50
D-4048 (Modified)	Copper Strip Corrosion 212°F (100°C) @ 3 hrs	1B
	Color	Gray Fluid

The above are average values. Minor variations which do not affect product performance are to be expected in normal manufacturing.

PACKAGING

Bulk	Nonreturnable Totes	Drums	Kegs	Pails
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Distributed By:



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WHITMORE'S

MATERIAL SAFETY DATA SHEET

I. IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY					
Product Name:	BioSwitch™	Manufacturer/Supplier:			
Chemical Family:	Ester Base Oil & Organoclay	The Whitmore Manufacturing Company			
Use:	Switch Plate Lubricant	930 Whitmore Drive Rockwall, Texas 75087, U.S.A.			
Emergency Tel. No.:	CHEMTREC	U.S.A. & Canada	800-424-9300 (24 hrs)		
		International	703-527-3887 (Collect)		
II. COMPOSITION INFORMATION ON INGREDIENTS					
Hazardous Components	CAS No.	Wt%	OSHA PEL	ACGIH TLV	Other Limits of Exposure
None					
III. ADVERSE HUMAN HEALTH EFFECTS					
Eyes:	Any eye contact will cause irritation.				
Skin:	Prolonged skin contact may cause irritation.				
Inhalation:	Breathing fumes in confined areas at elevated temperatures will cause lung irritation.				
Ingestion:	May be harmful if swallowed.				
IV. FIRST AID MEASURES					
Eyes:	Flush with large amounts of cold water. If irritation persists, SEEK MEDICAL ATTENTION.				
Skin:	Thoroughly wash exposed area with soap and water.				
Inhalation:	Provide fresh air source. If irritation persists, SEEK MEDICAL ATTENTION.				
Ingestion:	If cathartic effect persists, SEEK MEDICAL ATTENTION.				
V. FIRE FIGHTING MEASURES					
Extinguishing Media:	Foam, Dry Chemical, Carbon Dioxide				
Unsuitable Extinguishing Media:	None known.				
Fire Fighting Protective Equipment:	If product is overheated, use organic NIOSHA/MSHA filter-type respirator.				
VI. ACCIDENTAL RELEASE MEASURES					
Personal Precautions:	Wear plastic or neoprene rubber gloves and safety goggles.				
Environmental Precautions:	Check state regulatory requirements.				
Spillage:	Absorb with dry, inert material and shovel up.				
VII. HANDLING AND STORAGE					
Handling:	Keep away from open flame or sparks.				
Storage:	Keep away from open flame or sparks.				
VIII. EXPOSURE CONTROL/PERSONAL PROTECTION					
Respiratory Protection:	None				
Hand Protection:	Protective gloves for hypersensitive persons.				
Eye Protection:	Safety Goggles				
Body Protection:	None				

HMS SYMBOLS

	1
	1
Reactivity	0
PPI	B

MSDS-406

Effective Date: 6-3-03

Revised Date: 10-01-08

IX. PHYSICAL AND CHEMICAL PROPERTIES							
Physical State:	Semi-Fluid	Color:	Grey	Odor:	Petroleum		
Boiling Range/point, °F (°C):	N/A	Melting Point, °F (°C):	N/A				
Flash Point (COC), °F (°C):	[>500 (260) (Base Oils)]	Autoignition Temperature, °F (°C):	>800 (>427)				
Explosive Properties:	LEL: N/A	UEL: N/A	Evaporation Rate (Butyl Acetate):	N/A			
Partition Coefficient (Log Pow):	N/A		Vapor Pressure (kPa):	N/A			
Density:	8.20 - 8.30 lb/gal	Flammability:	N/A				
Oxidizing Properties:	None	Solubilities in Water:	Nil	Vapor Density:	N/D	% Volatiles:	Nil
X. STABILITY AND REACTIVITY							
Stability:	Chemically stable under normal conditions.						
Conditions to Avoid:	None known.						
Materials to Avoid:	Strong oxidizing agents.						
Decomposition Products:	Oxides of carbon, sulfur, and hydrocarbons.						
XI. TOXICOLOGICAL INFORMATION							
Acute Toxicity:	None	Skin Irritancy:	Very Mild				
Chronic Toxicity:	None	Skin Sensitization:	None				
Sub-acute/Subchronic Toxicity:	Not Known		Genotoxicity:	Not Known			
California Prop 65:	None Listed		EC Classification (67/548/EEC):	N/A			
Carcinogenicity:	NTP: No	IARC: No	OSHA:	No			
LC-50:	Not Available		LD-50:	Not Available			
XII. ECOLOGICAL INFORMATION							
Possible Effects:	None known.						
Behavior:	Relatively well behaved. Bioaccumulation potential nil.						
Environmental Fate:	Not thought to be toxic to marine or land organisms.						
XIII. WASTE DISPOSAL							
Product Disposal:	Contact waste disposal company or local authority for advice.						
Container Disposal:	Check state regulatory requirements.						
XIV. TRANSPORT INFORMATION							
DOT:	Not Regulated		UN No.:	Not Regulated			
Air Transport (ICAO/IATA):	Not Regulated						
Sea Transport (IMO/IMDG):	Not Regulated						
Road and Rail Transport (ADR/RID):	Not Regulated						
XV. REGULATORY INFORMATION							
Labeling Information:	N/A		EC Annex 1 Classification:	N/A			
R Phrases:	N/D						
S Phrases:	S2 Keep out of the reach of children.						
Ozone Depleting Chemicals:	None/Nil		TSCA:	All components listed.			
WHMIS (Canada):	N/A						
EPA Regulation 40 CFR Part 372 (SARA Section 313):	None						
XVI. OTHER INFORMATION							
None							

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