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FORM FILM PRODUCT SPECIFICATIONS

Product Name: PATTERSON FORM FILM: White Solvent-Based Peelable Form Coating
Product Code: 791-WH

Intended Use: This product was designed as an easy-to-apply, fast-drying, peelable coating for the protection of metal surfaces from rust and other contaminants during storage.

Special Properties:

1. Easy to apply, bright white coating to ensure better coverage.
2. Fast dry time.
3. Forms a tough flexible film that is easily peeled.
4. Dry film is non-flammable.

Typical Properties:

Color: White
Viscosity: 70 +/- 5 Krebs units
Solids by Weight: 30 +/- 5%
Solids by Volume: 26 +/- 3%
Density 7.5 +/- 0.5 lbs. per gallon
V.O.C. (theoretic): 5.0 lbs. per gallon
Coverage (average): 200-225 sq. ft. per gallon @ 2.0 dry mil

Application Data:

Method: Apply by pressurized spray.
Reduction: Apply as supplied. If a reduction is needed, acetone or any strong lacquer thinner may be used.
Substrate: Spray on clean, smooth steel.
Cure: Air dry 30 minutes.
Recommended Dry Film Thickness: Apply 2-3 dry mils.
Recommended Wet Film Thickness: Apply 6-8 wet mils.
Clean Up: Use ketone solvents or any strong lacquer thinner.
Storage: If chilled below 30 degrees Fahrenheit 791 may form a gel-like consistency. Warm the contents of the container to 65-70 degrees Fahrenheit and agitate to return the material to application condition.
Shelf Life: 12 months.

This product is not designed for applications that are subject to periods of elevated temperatures or exposure to sunlight. This product is recommended for application to steel and aluminum surfaces. It is recommended that all surfaces be sanded/cleaned to be made free from rust and other debris prior to use. Testing is recommended prior to use on any other type of surface.

FOR INDUSTRIAL USE ONLY



Application Instructions:

Product Name: PATTERSON FORM FILM: White Solvent-Based Peelable Form Coating
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Patterson's Form Film White Solvent-Based Peelable Form Coating is formulated for spray application. It may also be brushed or rolled on, if necessary.

Form Film is a ready-to-use paint related coating. Reduction should not be needed, however, if desired, acetone or any strong lacquer thinner may be used.

When applying, use spray application when possible. If using spray application, no changes to your existing equipment are required nor is additional equipment needed. Best results have been achieved using a pressure feed with separate atomizing air equipment or air-assisted equipment. In most cases, Form Film can be applied using the same spray-gun tip used in your current spray application. If you spray extremely thin coatings in your normal processes, you may need to apply the Form Film using a tip with a larger orifice. Contact us if you feel that an alternative tip may be needed. If electrostatic equipment is used we suggest disconnecting the power unit so that no electrical charge is applied to the coating. We recommend that all equipment be cleaned by flushing with ketone solvents, or any strong lacquer thinner, immediately after application.

Form Film is NOT RECOMMENDED FOR USE IN EXTERIOR APPLICATIONS OR IN ENVIRONMENTS WITH EXPOSURE TO ELEVATED TEMPERATURES. If you need a strippable coating for an environment with elevated temperatures, please call us at (800) 332-7090 and inquire about Patterson Hi-Temp strippable coating. Elevated temperatures are defined as those over 95°F.

The surface on which the Form Film is applied should be dry and free from concrete, dirt, most oils and grease, since these will prevent adhesion and cause the dried film to "self-strip." Please call us for recommendations on surface preparation for your conditions to achieve optimum removal.

We recommend an application of 6-8 wet mils which will dry to a minimum of 2-3 dry mils. Under normal circumstances, 2-3 dry mils will produce a tough elastic film which is easily peeled off. It is suggested that a thicker coating be applied where additional tear resistance is required such as floors, grates, etc.

In order to remove the coating, simply score through the film or pry up a piece from an edge. Lift the coating along the line until a sheet large enough to grasp with both hands is available. Then, simply peel the coating from the surface. When applied correctly, the Form Film will peel off the form in large sheets.

The sheets of Form Film should be disposed of after removal. Always dispose of material in accordance with all federal, state, and local regulations.

Form Film should be stored between 65°-70°F. If chilled below 30°F, the Form Film may form a gel-like consistency. Warm the contents of the container to 65°-70°F and agitate to return the material to application condition.

For more information or to check out our entire product catalog, visit us at www.patterson-online.com or call us toll-free at (800) 332-7090.

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EMERGENCY PHONE:	1-800-424-9300	Chemtrec
INTERNATIONAL TRANSPORTATION ACCIDENTS:	1-703-527-3887	Chemtrec

I. CHEMICAL PRODUCT IDENTIFICATION

Product Name : **Form Film**

Date Printed : 03/18/08
Revision Date : 03/18/08
Supersedes : 03/18/02

Revision Number : 3

A.L. Patterson Info: 1-800-332-7090 www.patterson-online.com

II. COMPOSITION/INFORMATION ON INGREDIENTS - (EXPOSURE LIMITS - SEE SECTION VIII)

INGREDIENT NAME	CAS #	%
Toluene	108-88-3	30.01 - 40.00
Acetone	67-64-1	30.01 - 40.00
Chlorinated paraffins	63449-39-8	5.01 - 10.00
Methyl ethyl ketone	78-93-3	1.01 - 5.00
Methanol	67-56-1	1.01 - 5.00
Isophorone	78-59-1	1.01 - 5.00
Propylene Oxide	75-56-9	0.10 - 1.00

If ingredient percentages do not total 100%, the balance is due to rounding or applies to ingredient(s) deemed nonhazardous under 29 CFR 1910.1200 (Hazard Communication Standard).

III. HAZARDS IDENTIFICATION

	HMIS
HEALTH	2 *
FLAMMABILITY	3
REACTIVITY	0

0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme * = Chronic Health Effects

Routes of Entry:

Inhalation, Skin contact, Eye contact, Absorption, Ingestion.

Medical Conditions Aggravated:

Kidney disease, Skin disease including eczema and sensitization, Eye disease, Respiratory disease including asthma and bronchitis, Skin allergies, Digestive tract disease, Liver disease.

Immediate (Acute) Health Effects:

Inhalation:

Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache. Harmful if inhaled. Harmful. Can cause systemic damage, see target organs below. High concentrations in immediate area can displace oxygen and can cause dizziness, unconsciousness, and even death with longer exposure.

Skin Contact:

Can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.

Eye Contact:

Can cause severe irritation. Eye contact may result in corneal injury. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. Temporary vision impairment (cloudy or blurred vision) is possible. Irritating and may injure eye tissue if not removed promptly.

Skin Absorption:

May cause irritation and minor systemic damage. Harmful if absorbed through the skin. Contains Methanol. May cause deterioration of the optic nerve if absorbed through the skin in large amounts.

Ingestion:

Toxic if swallowed. May cause target organ failure and/or death. Can cause abdominal discomfort, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.

Target Organ Acute Toxicity:

Nervous System, Heart, Kidneys, Respiratory System, Skin, Eyes, Liver, Digestive Tract.

Long-Term (Chronic) Health Effects:

Inhalation:

Upon prolonged and/or repeated exposure, can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache. Prolonged or repeated inhalation may cause kidney and lung damage. Repeated or prolonged inhalation may cause toxic effects.



Skin Contact: Upon prolonged or repeated contact, can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.

Eye Contact: Upon prolonged or repeated contact, can cause severe irritation. Eye contact may result in corneal injury. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. Temporary vision impairment (cloudy or blurred vision) is possible.

Skin Absorption: Upon prolonged or repeated exposure, harmful if absorbed through the skin. May cause severe irritation and systemic damage. Contains methanol. Upon prolonged or repeated exposure, may cause deterioration of the optic nerve if large quantities are absorbed through the skin. Repeated absorption of large quantities may lead to blindness

Carcinogenicity: IARC: Yes NTP: Yes OSHA: No

Target Organ Chronic Toxicity: Respiratory System, Nervous System, Heart, Kidneys, Skin, Eyes, Digestive Tract, Liver.

NOTICE - Reports have associated repeated and prolonged occupational overexposure to solvents with brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

IV. FIRST AID

Inhalation: Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

Eyes: Immediately flush eyes with plenty of luke warm water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention and monitor the eye daily as advised by your physician.

Skin Contact: Immediately flush with water for 15 minutes. Wash the contaminated skin with soap and water. If irritation develops, call a physician.

Ingestion: Seek medical advice immediately. Provide ingredients information from Section II of this MSDS to the medical care provider. Contact your local Poison Control Center (listed in the telephone book), or dial the local "Emergency" (911) number for additional information. Do not induce vomiting unless instructed to do so by a physician or other competent medical personnel. Never give anything by mouth to an unconscious person.

Notes to M.D. Acute massive exposure to toluene can cause transient hematuria and albuminuria. Cardiac arrhythmias can occur after massive inhalation.

V. FIRE FIGHTING MEASURES

Flammability Summary:

Flash Point:	-20 °C;	-4 °F
Autoignition Temperature:	465 °C;	869 °F

Lower Flammable/Explosive Limit, % in air: 0.8 **Upper Flammable/Explosive Limit, % in air:** 7.0

Fire Hazards: Vapors may be ignited by heat, sparks, flames or other sources of ignition at or above the low flash point giving rise to a Class B fire. Vapors are heavier than air and may travel to a source of ignition and flash back This product, when dried or cured, may support combustion when subjected to sources of ignition or heat in sufficient amount.

Extinguishing Media: Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water spray or fog may also be effective for extinguishing if swept across the base of the fire. Water can also be used to absorb heat and keep exposed material from being damaged by fire.

Fire Fighting Instructions: Do not enter fire area without proper protection including self-contained toxic breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Flammable component(s) of this material may be lighter



than water and burn while floating on the surface. Use water spray/fog for cooling. Do not point solid water stream directly into burning oil to avoid spreading.

Hazardous Combustion Products:

Carbon dioxide, Carbon monoxide, Phosgene.

VI. ACCIDENTAL RELEASE MEASURES

Health Consideration for Spill Response:

Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section VIII of this MSDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Evaporation of volatile substances can lead to the displacement of air creating an environment that can cause asphyxiation.

Spill Mitigation Procedures:

General Methods:

Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section VIII at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Shut off ignition sources; including electrical equipment and flames. Do not allow smoking in the area.

Air Release:

Ventilate the area by opening door and/or turning on fans and blowers.

Water Release:

Avoid runoff into storm sewers and ditches that lead to waterways. If runoff occurs, notify proper authorities as required, that a spill has occurred.

Land Spills:

Do not flush to sewer.

VII. HANDLING AND STORAGE

Handling:

Harmful or irritating; avoid overexposure to the material. Use only in a well ventilated area. Use spark-proof tools and explosion-proof equipment.

Storage:

Store in a cool dry ventilated location. Isolate from incompatible materials and conditions. Keep container(s) closed when not in use. Keep away from sources of ignition.

VIII. ENGINEERING CONTROLS, PERSONAL PROTECTIVE EQUIPMENT, AND EXPOSURE LIMITS

Engineering Controls:

Local exhaust ventilation, process enclosures, or other engineering controls are important when handling or using this product to avoid overexposure. Facilities storing or using this material should be equipped with an eyewash and safety shower. Vapor concentrations should be monitored and controlled in accordance with 29 CFR 1910.1000.

Protective Equipment:

Respiratory Tract:

If general or local exhaust ventilation is not available or sufficient to reduce exposure to below acceptable levels, then respiratory protection is required to avoid overexposure when handling this product.

Eyes:

Wear safety glasses with side shields when handling this product. When the possibility exists for eye contact with splashing or spraying liquid, or airborne material, wear additional eye protection such as chemical splash goggles and/or face shield. Do not wear contact lenses. Have an eye wash station available.

Skin:

Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Do not wear surgical style latex gloves except to protect against incidental contact with the material. Use impervious gloves.

Protective Clothing:

Wear chemically resistant gloves and apron. (Consult your safety equipment supplier).



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CHEMICAL NAME	CAS #	ACGIH TLV	OSHA PEL	IDLH
Toluene	108-88-3	50 ppm TWA	200 ppm TWAC 300 ppm	500 ppm IDLH
Acetone	67-64-1	500 ppm TWA 750 ppm STEL	1000 ppm TWA; 2400 mg/m ³ TWA	2500 ppm IDLH (lower explosive level)
Chlorinated paraffins	63449-39-8	No TLV	No PEL established	Not determined.
Methyl ethyl ketone	78-93-3	200 ppm TWA 300 ppm STEL	200 ppm TWA; 590 mg/m ³ TWA	3000 ppm IDLH
Methanol	67-56-1	200 ppm TWA 250 ppm STEL	200 ppm TWA; 260 mg/m ³ TWA	6000 ppm IDLH
Isophorone	78-59-1	No TLVC 5 ppm	25 ppm TWA; 140 mg/m ³ TWA	200 ppm IDLH
Propylene Oxide	75-56-9	(20 ppm) TWA	100 ppm TWA; 240 mg/m ³ TWA	Potential NIOSH carcinogen.

IX. PHYSICAL DATA

Appearance:	White Liquid.
Color:	White
Odor:	Hydrocarbon Mild
pH:	N/A
Octanol/Water Coeff:	Not Determined.
Solubility in Water:	Partial.
Vapor Density:	Heavier than air. Vapors that evolve from this product will tend to settle and accumulate near the floor.
Evaporation Rate:	Faster than n-Butyl acetate.
Specific Gravity/Density:	0.943 / 7.87 Lbs./G1.
V.O.C.	4.9 Lbs/G1 less water & exempt solvent; 588 g/l less water & exempt solvent; 3.1 Lbs/G1 as packed

The VOC content is determined by using a percent solids basis, less water and exempt solvents, for adhesives, coatings and inks and the calculations of EPA Reference Method 24 or equivalent ASTM method approved by the executive office.

The Federal EPA has delisted Acetone as a VOC. Even though this product contains Acetone (see Section II), the VOC listed above does not include Acetone in the VOC calculation. Individual states may have other regulations. Please check with your state.

Initial Boiling Point:	56 °C;	133 °F
Initial Freezing Point:	N/A	

X. STABILITY AND REACTIVITY

Stability Information:	Stable under normal conditions.
Conditions to Avoid:	Sparks, open flame, other ignition sources, and elevated temperatures. Contamination., High temperatures
Chemical Incompatibility:	Strong acids, Strong oxidizing agents.
Hazardous Decomposition Products:	Carbon dioxide, Carbon monoxide, Chlorine containing gases, Phosgene.

XI. TOXICOLOGICAL INFORMATION

Chemical Name	LD50/LC50
Toluene	Inhalation LC50 Mouse : 5320 ppm/8H; Oral LD50 Rat : 5000 mg/kg; Dermal LD50 Rabbit : 14 g/kg
Acetone	Inhalation LC50 Rat : 50100 mg/m ³ /8H; Inhalation LC50 Mouse : 44 gm/m ³ /4H; Oral LD50 Rat : 5800 mg/kg; Oral LD50 Mouse : 3 gm/kg
Paraffin waxes and hydrocarbon waxes, chlorinated	Oral LD50 Rat : >21500 uL/kg; Dermal LD50 Rabbit : >10 mL/kg
2-Butanone	Inhalation LC50 Rat : 23500 mg/m ³ /8H; Inhalation LC50 Mouse : 32 gm/m ³ /4H; Oral LD50 Rat : 2737 mg/kg; Oral LD50 Mouse : 4050 mg/kg; Dermal LD50 Rabbit : 6480 mg/kg
Methanol	Inhalation LC50 Rat : 64000 ppm/4H; Oral LD50 Rat : 5628 mg/kg; Oral LD50 Mouse : 7300 mg/kg; Dermal



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	LD50 Rabbit : 15800 mg/kg
2-Cyclohexen-1-one, 3,5,5-trimethyl-	Oral LD50 Rat : 1870 mg/kg; Oral LD50 Mouse : 2690 mg/kg; Dermal LD50 Rabbit : 1500 uL/kg
Propane, 1,2-epoxy-	Inhalation LC50 Rat : 4000 ppm/4H; Inhalation LC50 Mouse : 1740 ppm/4H; Oral LD50 Rat : 380 mg/kg; Oral LD50 Mouse : 440 mg/kg; Dermal LD50 Rabbit : 1500 uL/kg

XII. ECOLOGICAL INFORMATION

Overview: Care should be taken to minimize releases of any industrial chemicals to the environment.

XIII. DISPOSAL CONSIDERATIONS

Waste Description for Spent Product: Spent or discarded material is a hazardous waste.
Disposal Methods: Information in this MSDS is provided only as a guide. Consult with competent authority to determine proper waste disposal procedures. Clean up and dispose of waste and clean-up materials in accordance with all federal, state, and local environmental regulations.
Potential EPA Waste Codes: D001, .

Some Components Possibly Subjected to USEPA Land Disposal Restrictions:

When disposing of unused products or any waste, the preferred options are to send to a licensed reclaimer or to permitted incinerators. There may be some other ingredients subject to LDR categories.

Toluene	108-88-3
Acetone	67-64-1
Methyl ethyl ketone	78-93-3
Methanol	67-56-1

XIV. TRANSPORTATION INFORMATION

Agency Basic Description and Label

DOT Paint Related Material, 3, UN1263, PG II; Label Required: Flammable Liquid.

Hazardous Substance

Toluene	final RQ = 1000 pounds (454 kg); also listed as Benzene, methyl-
Acetone	final RQ = 5000 pounds (2270 kg); also listed as 2-Propanone
Ethyl methyl ketone	final RQ = 5000 pounds (2270 kg); also listed as 2-Butanone; also listed as Ethyl methyl ketone
Methanol	final RQ = 5000 pounds (2270 kg); also listed as Methyl alcohol
Isophorone	final RQ = 5000 pounds (2270 kg)
Propylene oxide	final RQ = 100 pounds (45.4 kg)

XV. REGULATORY INFORMATION

Regulation

SARA 313 Reportable : Toluene, Methyl ethyl ketone, Methanol, Propylene oxide

TSCA Inventory : All components of this product are listed in, or exempt from, the TSCA 8(b) Inventory.

M.S.D.S. Reportable HAP(s) : Toluene, Methyl ethyl ketone (2-Butanone), Methanol, Isophorone, Propylene oxide.

California Proposition 65 : The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65: "WARNING: This product contains chemical(s) known to the State of California to cause cancer and/or birth defects."

SARA/CERCLA Section 302 : Propylene oxide TPQ = 10,000 pounds; RQ = 100 pounds (does not meet toxicity criteria but because of high production volume and recognized toxicity is considered a chemical of concern)

XVI. ADDITIONAL INFORMATION

Major References: VENDOR'S MSDS's, PAINT & COATINGS HANDBOOK, EPA'S LIST OF LISTS, AND OTHER PUBLISHED MATERIALS.

IMPORTANT: WHILE THE DESCRIPTIONS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, THEY ARE PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU PERFORM AN ASSESSMENT TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED, DATA OR INFORMATION SET FORTH. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, OR DATA PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, THE DESCRIPTIONS, DATA AND INFORMATION FURNISHED HERE ARE GIVEN GRATIS. NO OBLIGATIONS NOR LIABILITIES FOR THE DESCRIPTION, DATA AND INFORMATION GIVEN ARE ASSUMED. ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.