

MATERIAL SAFETY DATA SHEET
FOR
FR-46-PE

WHMIS – CLASS D, DIV. 2B: TOXIC		CONTROLLED	
SECTION 1: PRODUCT IDENTIFICATION AND USE			
PRODUCT USE: FIRE-RESISTANT PHOSPHATE ESTER HYDRAULIC FLUID		PRODUCT CODE: 6005	
MANUFACTURER AND SUPPLIER:		FORSYTHE LUBRICATION ASSOCIATES LTD. 120 CHATHAM STREET HAMILTON, ONTARIO L8P 2B5 (905) 525-7192	
SECTION 2: HAZARDOUS INGREDIENTS			
ONLY THE INGREDIENTS PRECEDED BY A ** ARE CONTROLLED UNDER WHMIS			
% HAZARDOUS INGREDIENTS	UN/CAS #	LC 50	
		LD 50-ORAL (RATS)	
		LD 50-DERMAL (RABBITS)	
60-100 ** ISOPROPYLATED TRIPHENYL PHOSPHATES	68937-41-7		
7-13 TRIPHENYL PHOSPHATE	115-86-6		
SECTION 3: PHYSICAL DATA			
VAPOUR PRESSURE (mm Hg):	0.01 AT 150 C	EVAPORATION RATE:	NOT AVAILABLE
COEFFICIENT WATER/OIL DISTRIBUTION:	NOT AVAILABLE	FREEZING POINT (°C):	NOT AVAILABLE
WATER SOLUBILITY:	INSOLUBLE	PHYSICAL STATE:	LIQUID
VISCOSITY:	41.4 – 46.0 cSt @ 40 C	pH:	NOT AVAILABLE
BOILING POINT (°C):	> 300	VAPOUR DENSITY:	> 1 (AIR=1)
ODOUR THRESHOLD (ppm):	NOT AVAILABLE	SPECIFIC GRAVITY:	1.17 AT 20 C
VOLATILE (%):	NOT AVAILABLE	ODOUR/APPEARANCE:	AMBER CLEAR WITH A MILD ODOUR
SECTION 4: FIRE AND EXPLOSION DATA			
FLAMMABILITY? YES (X) CONDITIONS? EXPOSURE TO OPEN FLAME, IGNITION SOURCES AND TEMPERATURES ABOVE FLASH POINT. NO ()			
MEANS OF EXTINCTION:	(X) CARBON DIOXIDE	(X) FOAM	(X) FOG (SPRAY)
	(X) DRY CHEMICAL	() WATER STREAM	(X) OTHER (SEE SPECIAL PROCEDURES)
FLASH POINT °C (METHOD):	> 230 (COC)	AUTO IGNITION POINT °C:	545
LOWER FLAMMABLE LIMIT (%VOL):	NOT AVAILABLE	UPPER FLAMMABLE LIMIT (%VOL):	NOT AVAILABLE
COMBUSTION PRODUCTS: OXIDES OF CARBON AND PHOSPHORUS.			
SENSITIVITY TO IMPACT: NONE		SENSITIVITY TO STATIC DISCHARGE: NONE	
SPECIAL PROCEDURES: USE WATERSPRAY TO COOL FIRE EXPOSED CONTAINERS AND AS A PROTECTIVE SCREEN. WEAR NIOSH APPROVED SELF CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT SKIN AND EYE CONTACT IN FIRE SITUATIONS.			

PRODUCT CODE 06005

SECTION 5: REACTIVITY DATA

CHEMICAL STABILITY? YES (X) CONDITIONS? STABLE UNDER NORMAL CONDITIONS OF HANDLING AND USE.
NO ()

INCOMPATIBILITY WITH OTHER PRODUCTS? YES () SPECIFY? NONE KNOWN.
NO (X)

REACTIVITY, UNDER WHAT CONDITIONS? NON REACTIVE

HAZARDOUS DECOMPOSITION PRODUCTS: THERMAL DECOMPOSITION MAY PRODUCE THE FOLLOWING:
OXIDES OF PHOSPHORUS, CARBON MONOXIDE AND CARBON DIOXIDE.

SECTION 6: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY: SKIN (X) EYES () INHALATION (X) INGESTION (X)

EFFECTS OF ACUTE EXPOSURE TO PRODUCT: MAY CAUSE EYE AND SKIN IRRITATION. PROLONGED OR CONTINUOUS CONTACT WITH SKIN WILL CAUSE IRRITATION. MAY CAUSE NERVOUS SYSTEM EFFECTS. MISTS GENERATED BY HEAT, VIOLENT AGITATION OR SPRAYING WILL IRRITATE SKIN, EYES, NOSE, THROAT AND RESPIRATORY SYSTEM. GENERAL REDDENING AND IRRITATION TO THE SKIN AND EYES, MUCOUS MEMBRANE IRRITATION, AND UPPER RESPIRATORY TRACT IRRITATION.

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT: PROLONGED OR REPEATED EXOSURE MAY CAUSE NEUROLOGICAL EFFECTS.

LD 50 – (ORAL) :	>5000 mg/kg	EXPOSURE LIMITS:	3 mg/m3 (TWA)
LD 50 – (DERMAL):	>2000 mg/kg	IRRITANCY OF PRODUCTS:	SLIGHT
LC 50 – (INHALATION):	> 200 mg/L	MUTAGENICITY:	NONE
SENSITIZATION:	NON SENSITIZER	CARCINOGENICITY:	NON CARCINOGENIC
REPRODUCTIVE TOXICITY:	NONE	SYNERGISTIC PRODUCTS:	NONE
TERATOGENICITY:	NON TERATOGENIC		

ADDITIONAL INFORMATION: BASED ON A SIMILAR PRODUCT, THIS PRODUCT HAS LOW ACUTE ORAL AND DERMAL TOXICITY. PRIMARY EYE AND SKIN IRRITATION STUDIES IN RABBITS ON A SIMILAR PRODUCT DID NOT RESULT IN EYE OR SKIN IRRITATION. HOWEVER, EYE AND SKIN IRRITATION MAY BE POSSIBLE.

SECTION 7: PREVENTATIVE MEASURES	
PERSONAL PROTECTIVE EQUIPMENT:	AVOID CONTACT WITH SKIN AND EYES. WEAR GOGGLES OR FACE SHIELD AND IMPERVIOUS GLOVES WHEN HANDLING. AT HIGH TEMPERATURES USE NIOSH APPROVED RESPIRATOR FOR ORGANIC VAPOURS.
ENGINEERING CONTROLS:	USE WITH ADEQUATE VENTILATION AND KEEP AIRBORNE CONCENTRATIONS WITHIN THE RECOMMENDED LIMITS. USE MECHANICAL VENTILATION FOR GENERAL AREA CONTROL.
LEAK AND SPILL PROCEDURES:	ABSORB RESIDUE WITH AN INERT ABSORBENT. SHOVEL INTO WASTE CONTAINER AND DISPOSE. WEAR PROTECTIVE EQUIPMENT AS SPECIFIED. FLUSH RESIDUE WELL WITH WATER. AVOID RELEASING TO THE ENVIRONMENT.
WASTE AND DISPOSAL:	USE STANDARD WASTE DISPOSAL PROCEDURES IN ACCORDANCE WITH LOCAL, PROVINCIAL AND FEDERAL REGULATIONS.
HANDLING PROCEDURES AND EQUIPMENT:	AVOID PERSONAL CONTACT. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER USING.
STORAGE REQUIREMENTS:	STORE IN COOL, WELL VENTILATED AREA. KEEP CONTAINER TIGHTLY CLOSED.
SPECIAL SHIPPING INFORMATION:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(CONTAINS TRIARYLPHOSPHATE, ISOPROPYLATED AND TRIPHENYL PHOSPHATE – MARINE POLLUTANT) CLASS 9, UN3082, PACKAGING GROUP III.

SECTION 8: FIRST AID MEASURES	
EYE CONTACT:	FLUSH WITH WATER FOR 15 MINUTES. SEEK MEDICAL ATTENTION.
SKIN CONTACT:	WASH WITH PLENTY OF SOAP AND WATER, REMOVE AND WASH CONTAMINATED CLOTHING PRIOR TO REUSE. SEEK MEDICAL ADVICE IF IRRITATION DEVELOPS.
INHALATION:	REMOVE VICTIM TO FRESH AIR. GET MEDICAL ATTENTION.
ASPIRATION / INGESTION:	IF CONSCIOUS, GIVE 1 TO 2 GLASSES OF WATER. GET MEDICAL ATTENTION.
NOTE: PRODUCT HAS LOW ACUTE ORAL AND DERMAL TOXICITY AND MAY BE IRRITATING TO THE EYES AND SKIN. TREATMENT IS CONTROLLED REMOVAL OR EXPOSURE FOLLOWED BY SYMPTOMATIC AND SUPPORTIVE CARE. HUMAN SYSTEMIC TOXICITY INFORMATION IS UNAVAILABLE, BUT EXPECTED TO BE LOW. NEUROLOGICAL EVALUATION OF WORKERS, WHERE NO DIFFERENCES WERE DEMONSTRATED BETWEEN TRIARYL PHOSPHATE ESTERS EXPOSED AND CONTROL POPULATIONS, SUPPORT THIS CONCLUSION.	

SECTION 9: PREPARATION DATE OF MSDS	
PREPARED BY : OPERATIONS	REVISION DATE: NOVEMBER 2007 SUPERSEDES: SEPTEMBER 2004

WARRANTY:
ALL TECHNICAL INFORMATION, RECOMMENDATIONS AND STATEMENTS CONTAINED HEREIN ARE BASED ON TESTS WE BELIEVE TO BE RELIABLE. IT IS OFFERED IN GOOD FAITH BUT WITHOUT GUARANTEE. WE MAKE NO WARRANTY EXPRESSED OR IMPLIED AS TO THE SUITABILITY OF OUR PRODUCT FOR ANY PARTICULAR USE IN OPERATIONS NOT UNDER OUR DIRECT CONTROL. LIABILITY IS LIMITED TO THE NET PURCHASE PRICE OF THE PRODUCT. THIS WARRANTY IS EXCLUSIVE OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED AND NO STATEMENT OR RECOMMENDATION NOT CONTAINED HEREIN SHALL APPLY UNLESS COVERED BY AGREEMENT SIGNED BY AUTHORIZED OFFICERS OF FORSYTHE LUBRICATION ASSOCIATES LTD.

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