

Steve Orger
Huntington Labs

MATERIAL SAFETY DATA SHEET (MSDS)

This MSDS should be attached or kept with the respective product with which it is associated.

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DUPONT MSDS MATERIAL SAFETY DATA SHEET
DUPONT CHEMICALS REVISED 5-NOV-1993 PRINTED 16-APR-1996
5806PP

"KRYTOX" LVP FLUORINATED GREASE
CHEMICAL PRODUCT/COMPANY IDENTIFICATION

MATERIAL IDENTIFICATION:
"KRYTOX" IS A REGISTERED TRADEMARK OF DUPONT.

CORPORATE MSDS NUMBER: DU002667

COMPANY IDENTIFICATION:
MANUFACTURER/DISTRIBUTOR:
DUPONT
1007 MARKET STREET
WILMINGTON, DE 19898

PHONE NUMBERS:
PRODUCT INFORMATION: 1-800-441-7515
TRANSPORT EMERGENCY: CHEMTREC 1-800-424-9300
MEDICAL EMERGENCY: 1-800-441-3637

COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS MATERIAL	CAS NUMBER	%
PERFLUOROKYLETHER	60164-51-4	70
POLYTETRAFLUORODETHYLENE	9002-84-0	30

HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS:

PHYSICAL DATA:
PERFLUOROKYLETHER:
INHALATION 4 HOUR ALC: 19.54 MG/L IN RATS
SKIN ABSORPTION ALC: > 17,000 MG/KG IN RATS
ORAL ALC: > 25,000 MG/KG IN RATS

THE PRODUCT CONTAINS A MILD AND A SLIGHT EYE IRRITANT.
POLYTETRAFLUORODETHYLENE IS NOT A SKIN IRRITANT IN ANIMALS. A SINGLE
INHALATION EXPOSURE TO PERFLUOROKYLETHER CAUSED NONSPECIFIC EFFECTS SUCH AS
RESPIRATORY IRRITATION. TOXIC EFFECTS DESCRIBED IN ANIMALS EXPOSED TO
DECOMPOSITION PRODUCTS OF THE PRODUCT FORMED ABOVE 260 DEG C (500 DEG F)
INCLUDE LUNG IRRITATION, IRREGULAR RESPIRATION, TREMORS AND INCREASED LIVER
WEIGHT. PULMONARY EDEMA AND DEATH OCCURRED IN RATS EXPOSED TO THE
DECOMPOSITION PRODUCTS OF PERFLUOROKYLETHER FORMED AT AROUND 290 DEG C
(554 DEG F). A SINGLE INHALATION EXPOSURE TO POLYTETRAFLUORODETHYLENE CAUSED
IRRITATION OF THE LUNGS IN ANIMALS. REPEATED INGESTION EXPOSURES TO
POLYTETRAFLUORODETHYLENE CAUSED NO SIGNIFICANT TOXICOLOGICAL EFFECTS; LONG-TERM
INGESTION EXPOSURE CAUSED ALTERED WHITE BLOOD CELL COUNTS.

HUMAN HEALTH EFFECTS OF OVEREXPOSURE:

SKIN CONTACT MAY CAUSE SKIN IRRITATION WITH DISCOMFORT OR BASH. PROLONGED
SKIN CONTACT MAY CAUSE REDNESS AND INFLAMMATION OF THE HAIR FOLLICLES WITHOUT
SKIN SENSITIZATION.

EYE CONTACT MAY CAUSE EYE IRRITATION WITH DISCOMFORT, TEARING OR BLURRING OF
VISION.

INHALATION OF FLUORINE COMPOUNDS RELEASED AS DECOMPOSITION PRODUCTS AT AROUND
290 DEG C (554 DEG F) MAY CAUSE LUNG IRRITATION AND PULMONARY EDEMA WHICH
REQUIRE MEDICAL TREATMENT. INHALATION OF BURNING MATERIAL OR SMOKE FROM
CIGARETTES OR TOBACCO CONTAMINATED WITH THIS PRODUCT MAY CAUSE POLYMER FUME
FEVER. POLYMER FUME FEVER IS A FLU-LIKE ILLNESS WITH FEVER, CHILLS AND
SOMETIMES COUGH, WHICH OCCURS SEVERAL HOURS AFTER EXPOSURE AND SUBSIDES WITHIN
24-48 HOURS EVEN IN THE ABSENCE OF TREATMENT. POLYMER FUME FEVER DOES NOT
CAUSE PERMANENT INJURY AND THE EFFECTS ARE NOT CUMULATIVE.

CARCINOGENICITY INFORMATION: NONE OF THE COMPONENTS PRESENT IN THIS MATERIAL
AT CONCENTRATIONS EQUAL TO OR GREATER THAN 0.1% ARE LISTED BY IARC, NTP, OSHA
OR ACGIH AS A CARCINOGEN.

FIRST AID MEASURES

FIRST AID
INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE
ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A
PHYSICIAN.

SKIN CONTACT: FLUSH SKIN WITH WATER AFTER CONTACT. WASH CONTAMINATED
CLOTHING BEFORE REUSE.

EYE CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER
FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN.

INGESTION: IF SWALLOWED, DO NOT INDUCE VOMITING. IMMEDIATELY GIVE 2 GLASSES
OF WATER. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. CALL A
PHYSICIAN.

NOTES TO PHYSICIANS:
ACTIVATED CHARCOAL MIXTURE MAY BE ADMINISTERED. TO PREPARE ACTIVATED CHARCOAL
MIXTURE, SUSPEND 50 GRAMS ACTIVATED CHARCOAL IN 400 ML WATER AND MIX
THOROUGHLY. ADMINISTER 5 ML/KG, OR 350 ML FOR AN AVERAGE ADULT.

FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES
FLASH POINT: DOES NOT IGNITE
METHOD: PMCC

FIRE AND EXPLOSION HAZARDS: NON-COMBUSTIBLE
EXTINGUISHING MEDIA: AS APPROPRIATE FOR COMBUSTIBLES IN AREA.
FIRE FIGHTING INSTRUCTIONS: WEAR SELF-CONTAINED BREATHING APPARATUS. WEAR
FULL PROTECTIVE EQUIPMENT.
DECOMPOSITION AT FLAME TEMPERATURES MAY FORM TOXIC FLUORINE COMPOUNDS. AVOID
BREATHING DECOMPOSITION PRODUCTS.

ACCIDENTAL RELEASE MEASURES

SAFEGUARDS (PERSONNEL):
NOTE: REVIEW FIRE FIGHTING MEASURES AND HANDLING (PERSONNEL) SECTIONS BEFORE
PROCEEDING WITH CLEAN-UP. USE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT
DURING CLEAN-UP.

ACCIDENTAL RELEASE MEASURES: PLACE IN CONTAINER FOR DISPOSAL. REMOVE SOURCE
OF HEAT AND FLAME.

HANDLING AND STORAGE

HANDLING (PERSONNEL):
AVOID CONTACT WITH EYES. AVOID CONTACT WITH SKIN. WASH THOROUGHLY AFTER
HANDLING. DO NOT STORE OR CONSUME FOOD, DRINK OR TOBACCO IN AREAS WHERE THEY
MAY BECOME CONTAMINATED WITH THIS MATERIAL.

STORAGE:
KEEP CONTAINER TIGHTLY CLOSED. DO NOT STORE OR CONSUME FOOD, DRINK OR
TOBACCO IN AREAS WHERE THEY MAY BECOME CONTAMINATED WITH THIS MATERIAL.
KEEP AWAY FROM HEAT AND FLAMES TO AVOID DECOMPOSITION PRODUCTS.

EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:
KEEP CONTAINER TIGHTLY CLOSED.
KEEP AWAY FROM HEAT AND FLAMES.

PERSONAL PROTECTIVE EQUIPMENT:
EYE/FACE PROTECTION: WEAR SAFETY GLASSES OR COVERALL CHEMICAL SPLASH GOGGLES.

RESPIRATORS: WEAR NIOSH/MSHA APPROVED RESPIRATORY PROTECTION AS APPROPRIATE.

PROTECTIVE CLOTHING: WHERE THERE IS POTENTIAL FOR SKIN CONTACT HAVE
AVAILABLE AND WEAR AS APPROPRIATE, IMPERVIOUS GLOVES, APRON, PANTS, AND
JACKET.

EXPOSURE GUIDELINES:
APPLICABLE EXPOSURE LIMITS:
POLYTETRAFLUORODETHYLENE:
PEL (OSHA): NONE ESTABLISHED
TLV (ACGIH): NONE ESTABLISHED
AEL (DUPONT): 10 MG/M3, 8 HR. TWA, TOTAL DUST
5 MG/M3, 8 HR. TWA, RESPIRABLE DUST

+ AEL IS DUPONT'S ACCEPTABLE EXPOSURE LIMIT. WHERE GOVERNMENTALLY IMPOSED
OCCUPATIONAL EXPOSURE LIMITS WHICH ARE LOWER THAN THE AEL ARE IN EFFECT, SUCH
LIMITS SHALL TAKE PRECEDENCE.

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DATA
MELTING POINT: 320 C (608 F)
SOLUBILITY IN WATER: NEGLIGIBLE WT%
PH: NEUTRAL
ODOR: ODORLESS
FORM: SOLID, WAXY GREASE
COLOR: WHITE
SPECIFIC GRAVITY: 1.89 - 1.93 @ 24 DEG C (75 DEG F)

STABILITY AND REACTIVITY

CHEMICAL STABILITY: STABLE.

INCOMPATIBILITY WITH OTHER MATERIALS: NONE REASONABLY FORESEEABLE.

POLYMERIZATION: POLYMERIZATION WILL NOT OCCUR.

OTHER HAZARDS: DECOMPOSITION: HEATING ABOVE 260 - 290 DEG C (500 - 554 DEG
F) MAY FORM POTENTIALLY TOXIC FLUORINE COMPOUNDS. DEPOLYMERIZATION MAY
OCCUR IN THE PRESENCE OF SOME METAL OXIDES AT TEMPERATURES ABOVE 280 DEG C
(550 DEG F). DECOMPOSITION OCCURS AT INCREASING RATES AS TEMPERATURE IS
RAISED ABOVE 355 DEG C (670 DEG F).

DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: TREATMENT, STORAGE, TRANSPORTATION, AND DISPOSAL MUST BE IN
ACCORDANCE WITH APPLICABLE FEDERAL, STATE/PROVINCIAL, AND LOCAL REGULATIONS.
DO NOT FLUSH TO SURFACE WATER OR SANITARY SEWER SYSTEM.

TRANSPORTATION INFORMATION

SHIPPING INFORMATION:
DOT
PROPER SHIPPING NAME: NOT REGULATED.

SHIPPING CONTAINERS

2 - 8 OZ. POLYETHYLENE TUBES
1 LB. DOUBLE WALL JARS (POLYPROPYLENE INNER; POLYSTYRENE OUTER)
5 - 15 LB. POLYETHYLENE PAILS
50 - 75 LB. WHITE HIGH DENSITY POLYETHYLENE PAILS

REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:
TSCA INVENTORY STATUS: REPORTED/INCLUDED.

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

ACUTE: YES
CHRONIC: NO
FIRE: NO
REACTIVITY: NO
PRESSURE: NO

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OTHER INFORMATION

NFPA, NPCA-HMIS
NPCA-HMIS RATING
HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 0

PERSONAL PROTECTION RATING TO BE SUPPLIED BY USER DEPENDING ON USE CONDITIONS.

THE DATA IN THIS MATERIAL SAFETY DATA SHEET RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED HEREIN AND DOES NOT RELATE TO USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY PROCESS.

RESPONSIBILITY FOR MSDS: ROBERT V. DAUM
ADDRESS: DUPONT CHEMICALS
WILMINGTON, DE 19898
TELEPHONE: 800-441-9442

INDICATES UPDATED SECTION.