MSDS Date: 11/19/1999
MSDS Num: CKSQM
Product ID: KEVLAR BRAND FIBER
MFN: 01
Responsible Party
Cage: TO822
Name: DUPONT
Address: 1007 MARKET STREET
City: WILMINGTON DE 19898
Info Phone Number: 1-800-441-3637; 800-453-8527
Emergency Phone Number: 800-424-9300
Resp. Party Other MSDS No.: SP1889
Preparer's Name: EDMUND MERRIMAN
Chemtrec IND/Phone: (800)424-9300
Review Ind: Y
Published: Y

Ingredients

Cas: 26125-61-1
Name: POLY(TEREPHTHALOYLCHLORIDE/P-PHENYLENEDIAMINE) (PARA-ARAMID POLYMER)
> Wt: 89.

Cas: 7732-18-5
RTECS #: ZC0110000
Name: WATER, ABSORBED
% low Wt: 0.
% high Wt: 7.

Name: PULP WET-LAP
% low Wt: 35.
% high Wt: 70.

Cas: 7757-82-6
RTECS #: WE1650000
Name: SODIUM SULFATE IN KAVLAR PULP
< Wt: .1

Name: SODIUM SULFATE IN OTHER FORMS
< Wt: 2.

Name: FINISH
< Wt: ?
Health Hazards Data

Carcinogenicity Inds - NTP: NO
IARC: NO
OSHA: NO

Effects of Exposure: EYE: FIBER FLY & DUST MAY CAUSE IRRITATION. SKIN: CONTINUAL RUBBING OF FIBERS & FIBER PIECES ON THE SKIN MAY CAUSE IRRITATION. INGESTION: KEVLAR IS NONTOXIC WHEN EATEN. INHALATION: KEVLAR IS TOO BIG TO INHALE INTO THE LUNGS, BUT FIBER DUST & FLY FROM PROCESSING MAY BE BREATHED INTO THE NOSE & THROAT. WORKING UNPROTECTED IN DUSTY CONDITIONS MAY CAUSE UPPER RESPIRATORY IRRITATION & COLD-LIKE SYMPTOMS. CHRONIC: PROCESSING KEVLAR OR MACHINING MATERIALS CONTAINING KEVLAR MAY CREATE FIBER DUST IN THE AIR SMALL ENOUGH TO BE BREATHED INTO THE LUNGS. BREATHING HIGH CONCENTRATIONS OF DUST FOR LONG PERIODS MAY CAUSE LUNG INJURY.

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

Signs And Symptoms Of Overexposure: EYE: IRRITATION. SKIN: IRRITATION. INHALATION: UPPER RESPIRATORY IRRITATION AND COLD-LIKE SYMPTOMS.

First Aid: EYE: IN CASE OF CONTACT IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN IF IRRITATION PERSISTS OR DEVELOPS. INHALATION: IF LARGE AMOUNTS OF FUMES, DUST OR FIBERS ARE INHALED, REMOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, GIVE OXYGEN & CALL PHYSICIAN. IF PERSISTENT COUGH OR OTHER SYMPTOMS DEVELOP, GET MEDICAL ATTENTION. SKIN: WASH WITH SOAP & WATER. USE HAND CREAMS TO SOOTH & MOISTEN IRRITATED SKIN. GET MEDICAL ATTENTION IF IRRITATION PERSISTS AFTER CONTACT STOPS. INGESTION: IN CASE OF GASTRO-INTESTINAL DISTRESS FOLLOWING ACCIDENTAL INGESTION, CALL PHYSICIAN.

Handling and Disposal

Spill Release Procedures: WASH, SHOVEL OR MOP UP AND PLACE IN SOLID WASTE CONTAINERS. FIBER IS NOT BIODEGRADABLE; DO NOT FLUSH TO DRAINS. CLEAN UP DUSTS AND PULP WITH HIGH EFFICIENCY PARTICULATE AIR (HEPA) FILTERED VACUUM EQUIPMENT, OR BY WET CLEANING. AVOID THE USE OF DRY SWEEPING OR AIR JET BLOWING OF FIBERS AND DUST, WHICH CAN RE-SUSPEND RESPIRABLE DUST IN THE AIR.

Waste Disposal Methods: KEVLAR FIBER IS NOT A HAZARDOUS WASTE AS DEFINED BY REGULATIONS IMPLEMENTING THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA). WASTE MATERIALS OF KEVLAR MAY BE TREATED, STORED, TRANSPORTED AND DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS GOVERNING THE DISPOSAL OF OTHER COMMON OR NON-RCRA REGULATED WASTE MATERIALS.

Handling And Storage Precautions: DO NOT TOUCH MOVING THREADLINES OF KEVLAR FIBER. ENTANGLEMENT WITH THIS HIGH STRENGTH FIBER CAN SEVERELY CUT OR EVEN SEVER FINGERS. KEVLAR IS DEGRADED BY ULTRAVIOLET LIGHT. DO NOT STORE IN DIRECT SUNLIGHT. FLUORESCENT LIGHTING WILL CAUSE DISCOLORATION, BUT WILL NOT AFFECT FIBER MECHANICAL PROPERTIES.

Other Precautions: USE ONLY WITH ADEQUATE VENTILATION. AVOID DUST GENERATION. DO NOT CONSUME FOOD, DRINK OR TOBACCO IN AREAS WHERE THEY MAY BECOME CONTAMINATED WITH THIS MATERIAL.

Fire and Explosion Hazard Information

Extinguishing Media: WATER, FOAM, DRY CHEMICAL, CARBON DIOXIDE (CO2).

Fire Fighting Procedures: WEAR SELF-CONTAINED BREATHING APPARATUS. KEEP PERSONNEL REMOVED AND UPWIND OF FIRE. WEAR FULL PROTECTIVE EQUIPMENT (FULL BUNKER GEAR).

Unusual Fire/Explosion Hazard: KEVLAR FIBER DUST DOES NOT PRESENT AN EXPLOSION
HAZARD.

Control Measures

Respiratory Protection: RESPIRATOR USE MUST BE IN COMPLIANCE WITH OSHA STANDARD 29 CFR 1910.134 (THE RESPIRATOR STANDARD). AN AIR PURIFYING RESPIRATOR WITH A DUST/MIST/FUME CARTRIDGE OR CANISTER MAY BE USED UNDER CIRCUMSTANCES MEETING RESPIRATOR STANDARD. DISPOSABLE DUST MASKS EQUIVALENT TO 3M MODEL N95 8210 MAY ALSO BE USED.

Ventilation: IF FUMES, FIBER FLY OR DUSTS ARE GENERATED, USE ENGINEERING CONTROLS (WHERE TECHNICALLY FEASIBLE) WHENEVER NECESSARY TO CONTROL EXPOSURES BELOW LIMITS.

Protective Gloves: WEAR PROTECTIVE GLOVES AND SLEEVES.

Eye Protection: SAFETY GLASSES OR COVERALL GOGGLES.

Other Protective Equipment: ISOLATION, ENCLOSURES, EXHAUSTS AND VENTILATION, WETTING AND DUST COLLECTION SYSTEMS MAY BE USED. USE NON-GREASY MOISTURIZING SKIN CREAM TO PREVENT DRYING.

Work Hygienic Practices: WASH CONTAMINATED CLOTHING BEFORE REUSE.

Supplemental Safety and Health: *DRY AND WET KEVLAR PULP IS PACKAGED IN MOISTURE-PROOF BAGS/BALES TO PREVENT DRYING TO LESS THAN 4% MOISTURE AND POSSIBLE PICKUP OF ELECTROSTATIC CHARGE. IF PACKAGE IS PUNCTURED, RE-MOISTURIZE PULP TO AT LEAST 4% MOISTURE BEFORE USING.

Physical/Chemical Properties

HCC: N1

M.P./F.P. Text: DOES NOT MELT

Spec Gravity: 1.45G/CC

Solubility in Water: INSOLUBLE

Appearance and Odor: ODORLESS, GOLDEN, SOLID: YARN, FELT, FABRIC, PAPER, PULP, FLOC, STAPLES

Reactivity Data

Stability Indicator: YES

Materials To Avoid: NONE REASONABLY FORESEEABLE.

Hazardous Decomposition Products: FIBER DECOMPOSITION TEMPERATURE >400C. AT LOWER TEMPERATURES FINISH MAY BOIL OFF AS A FUME, WHICH SHOULD BE VENTED.

Hazardous Polymerization Indicator: NO

Toxicological Information

Toxicological Information: EYE EFFECTS: KEVLAR IS UNTESTED FOR EYE INJURY. SKIN EFFECTS: KEVLAR FIBER IS NOT A SKIN IRRITANT OR A SKIN SENSitizer IN ANIMALS. SKIN SENSITIZATION HAS NOT BEEN OBSERVED IN HUMAN SKIN PATCH TESTS OR IN INDUSTRIAL EXPERIENCE. ACUTE ORAL EFFECTS: KEVLAR POLYMER HAS VERY LOW TOXICITY BY INGESTION. ORAL ALD > 7500 MG/KG IN RATS. ACUTE INHALATION EFFECTS: INDUSTRIAL EXPERIENCE SHOWS THE INHALATION OF KEVLAR FIBROUS DUST & FLY MAY CAUSE MECHANICAL IRRITATION OF THE MUCOUS MEMBRANES OF NOSE & THROAT. CHRONIC INHALATION EFFECTS: A 2 YEAR INHALATION STUDY PRODUCED PULMONARY FIBROSIS AT 25, 100 & 400 F/CC.

Ecological Information

Ecological: KEVLAR FIBERS ARE NON-BIO-DEGRADABLE IN THE ENVIRONMENT & DO NOT LEACH MATERIAL TOXIC TO FLORA OR FAUNA. FINISHES & ADDITIVES USED WITH KEVLAR ARE TESTED FOR THEIR POTENTIAL EFFECTS ON MANUFACTURING WASTEWATER TREATMENT SYSTEMS. BIOCOMPATIBILITY & AQUATIC TOXICITY TESTS GIVE THE FOLLOWING RESULTS: FINISHES DO NOT APPEAR TO BE INHIBITORY OR TOXIC TO MICROBES COMMONLY FOUND IN BIOLOGICAL TREATMENT SYSTEMS. BIODEGRADATION ---MORE---
NORMAL ANTI-FOAM TREATMENTS SHOULD CONTROL FOAMING. DEGRADATION OF
SCOURED FINISHES SHOULD NOT RESULT IN INCREASED EFFLUENT TOXICITY. MOST
FINISHES ARE SUBSTANTIALLY OR COMPLETELY BIODEGRADABLE, BUT A FEW ARE NOT.

MSDS Transport Information
Transport Information: NOT REGULATED.

Regulatory Information
Sara Title III Information: SECTION 313: NOT REPORTABLE.
Federal Regulatory Information: TSCA: KEVLAR FIBER PRODUCTS ARE LISTED ON THE
TSCA INVENTORY. CLEAN AIR ACT AMENDMENTS OF 1990: KEVLAR FIBER PRODUCTS AND
THEIR PACKAGING DO NOT CONTAIN NOR ARE THEY MANUFACTURED WITH ANY OF THE
OZONE-DEPLETING SUBSTANCES LISTED IN EITHER CLASS I (CHLOROFLUOROCARBONS,
HALONS, CARBON TETRACHLORIDE AND METHYL CHLOROFORM OR CLASS II
(HYDROCHLOROFLUOROCARBONS). FDA: SOME BUT NOT ALL, KEVLAR FIBER PRODUCTS ARE
APPROVED FOR USE AS ARTICLES OR COMPONENTS OF ARTICLES INTENDED FOR REPEATED
CONTACT WITH FOOD (CFR 21 PART 177.1732, 4/92 EDITION).
State Regulatory Information: CALIFORNIA SAFE DRINKING WATER AND TOXIC
ENFORCEMENT ACT OF 1986 (PROP 65): KEVLAR FIBER CONTAINS NONE OF THE
SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER OR REPRODUCTIVE
TOXICITY. PENNSYLVANIA AND NEW JERSEY RIGHT-TO-KNOW LAWS: KEVLAR FIBER IS
CONSIDERED AN ARTICLE AND IS NOT SUBJECT TO THE PROVISIONS OF THE
PENNSYLVANIA AND NEW JERSEY RIGHT-TO-KNOW LAWS.

Other Information
Canada: KEVLAR IS NOT WHIMIS CONTROLLED. THIS MATERIAL IS
NOT TDG REGULATED. NFPA RATINGS: HEALTH-0, FLAMMABILITY-1, REACTIVITY-0. NPCA
RATINGS: HEALTH-0 * (CHRONIC HEALTH EFFECTS), FLAMMABILITY-1, REACTIVITY-0.

Transportation Information
Responsible Party Cage: TO822
Trans ID NO: 154525
Product ID: KEVLAR BRAND FIBER
MSDS Prepared Date: 11/19/1999
Review Date: 08/24/2000
MFN: 1
Net Unit Weight: UNKNOWN
Multiple KIT Number: 0
Unit Of Issue: CY
Type Of Container: CYLINDER

DOT PSN Code: ZZZ
DOT Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION

IMO PSN Code: ZZZ
IMO Proper Shipping Name: NOT REGULATED FOR THIS MODE OF TRANSPORTATION

IATA PSN Code: ZZZ
IATA Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION
Detail AFI Information
=================================================================
AFI PSN Code: ZZZ
AFI Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION
=================================================================
HAZCOM Label
=================================================================
Product ID: KEVLAR BRAND FIBER
Cage: T0822
Assigned IND: Y
Company Name: DUPONT
Street: 1007 MARKET STREET
City: WILMINGTON DE
Zipcode: 19898
Health Emergency Phone: 800-424-9300
Date Of Label Review: 08/24/2000
Status Code: A
Origination Code: F
Eye Protection IND: NO
Skin Protection IND: NO
Signal Word: NONE
Respiratory Protection IND: NO
Health Hazard: None
Contact Hazard: None
Fire Hazard: None
Reactivity Hazard: None
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