"ZYTEL" NYLON RESINS IN SYNONYM LIST ZYT002
PL00A402 Revised 13-Jul-05 Printed 07/14/2005

Substance ID :150000000692

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

"ZYTEL" is a registered trademark of DuPont.

Tradenames and Synonyms

"ZYTEL" 80G25HS BK117;
"ZYTEL" 80G33HS1L BK104, 80G33HS1L BK104W,
"ZYTEL" 80G33HS1L BKB010, 80G33HS1L NC010,
"ZYTEL" 80G33HS1L NC010W;
"ZYTEL" 80G33L BKB151, 80G33L NC010;
"ZYTEL" 80G43HS1L BK104, 80G43HS1L BKB010,
"ZYTEL" FE380005 BK151,
"ZYTEL" FE380006 BKB521, #

Company Identification

MANUFACTURER/DISTRIBUTOR
E.I. du Pont Canada Company
P.O. Box 2200
Streetsville
Mississauga, Ontario L5M 2H3

PHONE NUMBERS
Product Information : 1-800-387-2122
Medical Emergency : 1-800-441-3637 (24 hours)

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
POLYHEXAMETHYLENE ADIPAMIDE (Nylon 66)	32131-17-2	>45 WT%
GLASS FIBER		20-45 WT%
NON-REGULATED PROPRIETARY TOUGHENER		<15 WT%
NON-REGULATED LUBRICANTS, STABILIZERS, AND PIGMENTS		<5 WT%
CARBON BLACK	1333-86-4	0-2 WT%

Components (Remarks)

Material is not known to contain Toxic Chemicals under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

Additives in this product do not present a respiration hazard unless the product is ground to a powder of respirable size and the dust is inhaled. All dusts are potentially injurious to the respiratory tract if respirable particles are generated and inhaled in sufficiently high concentrations. Good industrial hygiene practices, as with all dusts, should include precautions to prevent inhalation of respirable particles.

HAZARDS IDENTIFICATION

Potential Health Effects

ADDITIONAL HEALTH EFFECTS

Read "ZYTEL" Molding Guide before using this product.

POLYHEXAMETHYLENE ADIPAMIDE (Nylon 66)

In general, skin irritation has not been produced in human patch tests with Nylon 66. However, a small percentage of subjects may respond to prolonged contact with redness of skin. Significant skin permeation, and systemic toxicity, after contact appears unlikely. There are no reports of human sensitization.

If particles of Nylon 66 contact the eye, mechanical irritation with tearing, pain or blurred vision may result.

GLASS FIBER

The mechanical action of the sharp fibers from Fiber Glass may cause skin irritation with discomfort or rash.

Eye contact with Fiber Glass particles may cause mechanical eye irritation with discomfort, tearing, or blurring of vision.

Inhalation of Fiber Glass particles may cause irritation of the upper respiratory passages, with coughing and discomfort.

Results from epidemiology studies suggest no causal relationship between Fiber Glass exposure and cancer. One epidemiology study does indicate a slight increase in lung cancer deaths. The evidence that fiber glass is related to these increased lung cancer deaths is considered weak.

Individuals with preexisting diseases of the lungs may have increased susceptibility to the toxicity of excessive exposures.

CARBON BLACK

Immediate effects of overexposure to Carbon Black by inhalation may include irritation of the nose, throat, and lungs with cough, difficulty breathing or shortness of breath.

If particles from Carbon Black contact the eye, mechanical irritation with tearing, pain or blurred vision may result.

Significant skin permeation, and systemic toxicity, after contact with Carbon Black appears unlikely. There are no reports of human sensitization.

Epidemiologic studies demonstrate no significant risk of human cancer from exposure to Carbon Black. While some reports cite an increased incidence of pulmonary abnormalities, such as decreased pulmonary function and radiological changes among Carbon Black workers, other reports show no correlation between exposure and effects on pulmonary function or disease.

Increased susceptibility to the effects of Carbon Black may be observed in persons with pre-existing disease of the lungs.

Carcinogenicity Information

The following components are listed by IARC, NTP, OSHA or ACGIH as carcinogens.

Material	IARC	NTP	OSHA	ACGIH
CARBON BLACK	2B			

FIRST AID MEASURES

First Aid

INHALATION
No specific intervention is indicated as the compound is not likely to be hazardous by inhalation. Consult a physician if necessary. If exposed to fumes from overheating or combustion, move to fresh air. Consult a physician if symptoms persist.

SKIN CONTACT
The compound is not likely to be hazardous by skin contact, but cleansing the skin after use is advisable. If molten polymer gets on skin, cool rapidly with cold water. Do not attempt to peel polymer from skin. Obtain medical treatment for thermal burn.

EYE CONTACT
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION
No specific intervention is indicated as compound is not likely to be hazardous by ingestion.

FIRE FIGHTING MEASURES

Flammable Properties

Flash Point : Not Applicable

Fire and Explosion Hazards:

Hazardous gases/vapors produced in fire are ammonia, carbon monoxide, traces of hydrogen cyanide, and, aldehydes.

Extinguishing Media

Water, Foam, Dry Chemical, CO2.

Fire Fighting Instructions

Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus.

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.

Spilled material is a slipping hazard.

Spill Clean Up

Recover undamaged and minimally contaminated material for reuse and reclamation. Shovel or sweep up.

HANDLING AND STORAGE

Storage

Keep containers tightly closed to prevent moisture absorption and contamination.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

VENTILATION When hot processing this material, use local and/or general exhaust ventilation to control the concentration of vapors and fumes below exposure limits.

In cutting or grinding operations with this material, use local exhaust to control the concentration of dust below exposure limits.

Personal Protective Equipment

EYE/FACE PROTECTION

Wear safety glasses. Wear coverall chemical splash goggles and face shield when possibility exists for eye and face contact due to splashing or spraying of molten material. A full face mask respirator provides protection from eye irritation.

RESPIRATORS

A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge with a dust/mist filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

During grinding, sanding, or sawing operations use a NIOSH/MSHA approved air purifying respirator with dust/mist cartridge or canister if airborne particulate concentrations are expected to exceed permissible exposure levels.

PROTECTIVE CLOTHING

If there is potential contact with hot/molten material, wear heat resistant clothing and footwear.

Wear leather or cotton gloves when sawing, routing, drilling or sanding.

Exposure Guidelines

Exposure Limits
"ZYTEL" NYLON RESINS IN SYNONYM LIST ZYT002

PEL	(OSHA)	: Particulates (Not Otherwise Regulated) 15 mg/m3, 8 Hr. TWA, total dust 5 mg/m3, 8 Hr. TWA, respirable dust

Other Applicable Exposure Limits
POLYHEXAMETHYLENE ADIPAMIDE (Nylon 66)

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

GLASS FIBER

PEL	(OSHA)	: None Established
TLV	(ACGIH)	: 5 mg/m3, 8 Hr.TWA, inhalable particulate

		A4
AEL * (DuPont)	:	5 mg/m3 total dust - 8 Hr. TWA, non-respirable fiber (> 3 microns in diameter) non-fibrous particulate.

CARBON BLACK		
PEL (OSHA)	:	3.5 mg/m3, 8 Hr. TWA
TLV (ACGIH)	:	3.5 mg/m3, 8 Hr. TWA, A4
AEL * (DuPont)	:	0.5 mg/m3, 8 & 12 Hr.TWA, (Polynuclear Aromatic Hydrocarbon Content <0.1%) Includes Channel, Lamp, and Thermal Black

* 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	:	>200 C (>392 F)
Solubility in Water	:	Insoluble
Odor	:	None
Form	:	Pellets.
Specific Gravity	:	>1
Color	:	Black, Brown, Gray, Natural Color.

STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and storage conditions.

Conditions to Avoid

Temperatures above 340 C (644 F) .

Incompatibility with Other Materials

Incompatible or can react with strong acids, strong oxidizers.

Decomposition

HAZARDOUS DECOMPOSITION PRODUCTS - cyclopentanone, carbon monoxide, aldehydes.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Animal Data

Nylon 66
Oral LD50, rat: > 10,000 mg/kg

Nylon 66 is not a skin irritant in tests with animals.

Single exposure by ingestion to high doses caused decreased body weight. Long-term exposure caused no significant toxicological effects.

Repeated inhalation exposure caused histopathological changes of the lungs, and kidneys.

In animal testing Nylon 66 has not caused carcinogenicity. No animal data are available to define developmental, reproductive or mutagenic hazards.

Fiber Glass
Skin irritation and mild eye irritation occurs in animals, but these effects are attributed primarily to mechanical damage rather than a chemical effect.

The effects in mice from single exposure by intratrachael instillation with Fiber Glass include an inflammatory response. Repeated inhalation exposures invoked pulmonary macrophage reactions similar to biologically inert dusts.

Tests in some animals with Fiber Glass demonstrate carcinogenic activity. However, these studies were by artificial implantation or injection of fine glass fibers into the chest, abdominal cavity, or trachea and are judged to be irrelevant to industrial exposure. Chronic inhalation exposure of animals to fiber glass at low concentrations produced minimal fibrosis in one study and no adverse effects in a different study.

No animal test reports are available to define mutagenic, developmental, or reproductive hazards.

Carbon Black

Oral ALD, rat: > 25,100 mg/kg

Repeated inhalation exposure of animals to Carbon Black caused inflammation of the respiratory tract, lungs and emphysema.

Repeated exposure to high doses of Carbon Black by ingestion or skin contact caused no significant toxicological effects.

No adequate studies have been conducted in animals to define the carcinogenicity of Carbon Black by ingestion. In several skin

painting studies using various Carbon Blacks no carcinogenicity was observed. Tests by inhalation for carcinogenicity in rats show significant increases in lung tumors in female rats but not male rats. In another study using female mice exposed by inhalation to Carbon Black there was no increase in the incidence of respiratory tract tumors. Researchers conducting the rat inhalation studies believe that these effects probably result from the massive accumulation of small dust particles in the lung which overwhelm the normal lung clearance mechanisms. This represents "lung overload" phenomenon, rather than a specific chemical effect of the dust particle in the lung.

Tests have shown that this material does not cause genetic damage in bacterial or mammalian cell cultures. Tests in animals for genetic toxicity have produced mostly negative results. No animal data are available to define developmental or reproductive toxicity.

ECOLOGICAL INFORMATION

Ecotoxicological Information

AQUATIC TOXICITY:
No information is available. Toxicity is expected to be low based on insolubility in water. Do not discharge to streams, ponds, lakes or sewers.

DISPOSAL CONSIDERATIONS

Waste Disposal

Preferred options for disposal are (1) recycling, (2) incineration with energy recovery, and (3) landfill. The high fuel value of this product makes option 2 very desirable for material that cannot be recycled, but incinerator must be capable of scrubbing out acidic combustion products. Treatment, storage, transportation, and disposal must be in accordance with applicable federal, state/provincial, and local regulations.

TRANSPORTATION INFORMATION

Shipping Information

Not regulated in transportation by DOT/IMO/IATA.

Shipping Information -- Canada

This material is Not Regulated.

REGULATORY INFORMATION

U.S. Federal Regulations

TSCA Inventory Status : In compliance with TSCA Inventory requirements for commercial purposes.

State Regulations (U.S.)

STATE RIGHT-TO-KNOW

No substances on the state hazardous substances list, for the states indicated below, are used in the manufacture of products on this Material Safety Data Sheet, with the exceptions indicated.

SUBSTANCES ON THE PENNSYLVANIA HAZARDOUS SUBSTANCES LIST PRESENT AT A CONCENTRATION OF 1 % OR MORE (0.01% FOR SPECIAL HAZARDOUS SUBSTANCES)- Carbon black.

WARNING - SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM- None.

The State of California, under Proposition 65, regulates Carbon Black - airborne, unbound particles of respirable size as a carcinogen. In this product, carbon black is not supplied in the form regulated in California.

SUBSTANCES ON THE NEW JERSEY WORKPLACE HAZARDOUS SUBSTANCE LIST PRESENT AT A CONCENTRATION OF 1% OR MORE (0.1% FOR SUBSTANCES IDENTIFIED AS CARCINOGENS, MUTAGENS OR TERATOGENS)- Carbon black.

Canadian Regulations

WHMIS Classification:

This is not a WHMIS Controlled Product.

CEPA Status : DSL: REPORTED/INCLUDED.

OTHER INFORMATION

Additional Information

MEDICAL USE: CAUTION: Do not use in medical applications involving permanent implantation in the human body. For other medical applications see DuPont CAUTION Bulletin No. H-50102.

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

(Continued)

POLYMERS E.I. du Pont Canada Company
Box 2200, Streetsville
Mississauga, Ontario, L5M 2H3
(905) 821-3300.

End of MSDS