

365 Meadowlands Blvd.
Washington, PA 15301
Ph: 724-746-6050
Fx: 724-746-9209

Ensinger 
1 Main Street
Grenloch, NJ 08032
Ph: 856-227-0500
Fx: 856-232-1754

Material Safety Data Sheet

TECAMID™ST NATURAL and BLACK

EMERGENCY TELEPHONE: 724-746-6050 or 856-227-0500
ISSUE DATE: October 1, 1985
REVISION DATE: April 16, 2011
TRADE NAME: TECAMID™
PART NAME: NYLON 6/6, IMPACT MODIFIED
CHEMICAL NAME: Polyhexamethylene Adipamide

1. Information on Ingredients

MATERIAL	CAS Number	%
Polyhexamethylene Adipamide	32131-17-2	>76
Toughener		<23
Colorants, Lubricants, Stabilizers		<2.5
Carbon Black	1333-86-4	0-5

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 or respirable size and the dust is inhaled. All dusts can cause potential injury 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.

2. Hazard Identification

POLYHEXAMETHYLENE ADIPAMIDE

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.

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 person 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			

3. First Aid Measures

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 advised. If molten polymer gets on skin, cool rapidly with cold water. Do not attempt to peel polymer from skin. Seek 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 if irritation persists.

INGESTION

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

4. Fire Fighting Measures

FLAMMABLE PROPERTIES

Flash Point: Not Applicable

Fire and Explosion Hazards :



Like most organic materials in powder form, dust generated from this product may form a flammable dust-air mixture. Potential for a dust explosion may exist. Minimize the generation and accumulation of dust. Keep away from sources of ignition.

Large molten masses may ignite spontaneously in air. Water quenching of such masses is good practice.

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

EXTINGUISHING MEDIA

Water, Foam, Dry Chemical, CO₂

FIRE FIGHTING INSTRUCTIONS

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

5. Handling and Storage

HANDLING (Personnel)

See FIRST AID and PERSONAL PROTECTIVE EQUIPMENT Sections

HANDLING (Physical Aspects)

Minimize the generation and accumulation of dust.

STORAGE

Store in a cool dry place. Keep away from heat and sunlight.

6. Exposure Controls / Personal Protection

ENGINEERING CONTROLS

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

In cutting, grinding, or machining 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 overall chemical splash goggles and face shield when possibility exists for eye or face contact with molten material. A full face mask positive-pressure air-supplied 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, where exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

During grinding, sawing, routing, drilling or sanding 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 materials, wear heat resistant clothing and footwear. Wear leather or cotton gloves when grinding, sawing, routing, drilling or sanding.

EXPOSURE GUIDELINES

EXPOSURE LIMITS

POLYAMID NYLON

PEL (OSHA):	Particulates (Not Otherwise Regulated)
	15 mg/m ³ , 8 hr. TWA, total dust
	5 mg/m ³ , 8 hr. TWA, respirable dust

OTHER APPLICABLE EXPOSURE LIMITS

POLYHEXAMETHYLENE ADIPAMIDE (Nylon 66)

PEL (OSHA)	None Established
TLV (ACGIH)	None Established
AEL*	10 mg/m ³ , 8 Hr. TWA, total dust
	5 mg/m ³ , 8 Hr. TWA, respirable dust

CARBON BLACK

PEL (OSHA)	3.5 mg/m ³ , 8 Hr., TWA
TLV (ACGIH)	3.5 mg/m ³ , 8 Hr., TWA, A4
AEL*	0.5 mg/m ³ , 8 & 12 Hr. TWA, (Polynuclear Aromatic Hydrocarbon Content <0.1%)
	Includes Channel, Lamp, and Thermal Black

* AEL is the manufacturer’s Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

7. Physical and Chemical Properties

PHYSICAL DATA

Melting Point:	>200°C (>392 °F)
Solubility in Water:	Insoluble
Odor:	None
Color:	Pale Yellow/Cream or Black
Form:	Rod, Plate, Sheet or Tube (stock shape product)
Specific Gravity:	> 1

8. Stability and Reactivity

CHEMICAL STABILITY

Stable at normal temperatures and storage conditions.



CONDITIONS TO AVOID

Temperatures above 340°C (644°F). Avoid prolonged exposure at or above the recommended processing temperatures.

INCOMPATIBLITY WITH OTHER MATERIALS

Incompatible or can react with strong acids, oxidizing agents.

DECOMPOSITION

Hazardous gases or vapors can be released, including ammonia, carbon monoxide, cyclopentanone, hydrogen cyanide, nitrogen oxides.

POLYMERIZATION

Polymerization will not occur.

9. Toxicological Information

ANIMAL DATA**NYLON 66**

Oral LD50: >10,000 mg/kg in rats

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 insufflation 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.

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 in 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.

10. Ecological 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.

11. 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 regulation.

12. Transportation Information

SHIPPING INFORMATION

Not regulated in transportation by DOT/IMO/IATA.

13. 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 known

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 the concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens) – Carbon Black

14. *Other Information*

ADDITIONAL INFORMATION

MEDICAL USE: CAUTION – Do not use in medical applications involving permanent implantation in the human body.

This Material Safety Data Sheet and the information it contains is offered to you in good faith as accurate. We have reviewed any information contained in this data sheet which we received from sources outside our company. We believe this information to be correct but cannot guarantee its accuracy or completeness. Health and safety precaution in this data sheet may not be adequate for all individuals and/or situations. It is the user's responsibility to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in the data sheet shall be construed as a permission or recommendation for the use of any product in a manner that may infringe existing patents. No warranty is made, either expressed or implied.