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**1. PRODUCT AND COMPANY IDENTIFICATION**

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**PRODUCT IDENTIFICATION**

Brand Name..... MANUS-SEAL 27-A  
Product Use ..... Co-Polymer Adhesive / Sealant  
Product Identification Number ..... UN 3175

**MANUFACTURER**

Manus Products, Inc.  
866 Industrial Blvd West  
Waconia, MN 55387

**EMERGENCY TELEPHONE NUMBER**

CHEMTREC: 800-424-9300  
  
Plant Telephone: 952 442-3323

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

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	CHEMICAL NAME	CAS NUMBER	WEIGHT %
Xylene		1330-20-7	<26
Carbon Black <sup>1</sup>		1333-86-4	<10
Titanium Dioxide <sup>2</sup>		13463-67-7	<10
Ethyl Benzene		100-41-4	<6

<sup>1</sup>Present in 27-A Gray; <sup>2</sup>Present in 27-A White

See Section 15 of this MSDS for OSHA Regulatory Status

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**3. HAZARDS IDENTIFICATION**

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**EMERGENCY OVERVIEW**

Heavy clear paste with petroleum odor; various colors.

Flammable Material (contains Xylene). Inhalation can cause nausea, anesthesia, ringing in the ears, central nervous system effects. Can cause skin and eye irritation. In case of fire, use foam, dry chemical, CO<sub>2</sub>.

**POTENTIAL HEALTH EFFECTS****PRIMARY ROUTE(S) OF ENTRY**

Inhalation (breathing); eye and skin contact.

WARNING! Inhalation can cause nausea, anesthesia, ringing in the ears, central nervous system effects. Can cause skin and eye irritation.

**SYMPTOMS OF EXPOSURE**

Inhalation: Breathing vapors can be irritating to the nose and throat. Inhalation of high concentrations can result in nausea, vomiting, headache, ringing in the ears. Can cause anesthetic effects and act as a central nervous system depressant.

Eye Contact: Vapors cause eye irritation; contact may cause severe irritation, eye damage.

Skin Contact: Can cause loss of natural oils, dermatitis. Symptoms may include redness, drying and cracking of skin. May be absorbed through skin.

Ingestion: May cause burning sensation in mouth and stomach, nausea, vomiting and salivation.

#### CHRONIC EFFECTS

May be harmful to fetus, kidneys, liver, or central nervous system.

#### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Eye or skin disease, breathing or respiratory disorders. Intentional misuse by deliberately concentrating and inhaling vapors can be harmful or fatal.

#### REPORTED AS CARCINOGEN OR POTENTIAL CARCINOGEN

Not Applicable

National Toxicology Program (NTP)

OSHA

International Agency for Research on Cancer (IARC)  
(See Section 11)

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#### 4. FIRST AID MEASURES

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Inhalation: Remove from area to fresh air. If not breathing, clear airway and start mouth-to-mouth artificial respiration or use a bag-mask respirator. Get immediate medical attention. If victim is having trouble breathing, transport to medical care and, if available, give supplemental oxygen.

Eye contact: Immediately rinse eyes with water. Remove any contact lenses. Hold eyelids apart to ensure rinsing of the entire surface of the eyes and lids with water. Continue flushing eyes with running water for at least 15 minutes. Get immediate medical attention.

Skin Contact: Wash affected areas with large amounts of running water, and soap if available, for 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing and decontaminate shoes before reuse.

Ingestion: **DO NOT** induce vomiting. Do not give anything by mouth to an unconscious or convulsing person. Get immediate medical attention.

#### NOTE TO PHYSICIAN

Chemicals of exposure are Xylene, Toluene and Ethyl Benzene which are irritants to eyes, skin, mucous membranes, respiratory and gastroesophageal tracts.

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#### 5. FIRE FIGHTING MEASURES

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Flash Point and Method..... 80 °F. (Xylene)

#### GENERAL HAZARD

This product and its vapors are flammable. Explosive in a contained area. Vapors are heavier than air and may travel along the ground or may be moved by ventilation. Vapors may be ignited by open flames, sparks, heaters, smoking, electric motors or other sources of ignition distant from use.

#### EXTINGUISHING MEDIA

For small fires, use foam, CO<sub>2</sub>, or dry chemical. For large fires, use water spray, fog, or foam.

**MANUS-SEAL 27-A; Clear, white, gray, black**

## SPECIAL FIREFIGHTING INSTRUCTIONS

Move containers from area if it can be done without risk.

## FIREFIGHTING EQUIPMENT

As in any fire, wear NIOSH approved, positive-pressure self-contained breathing apparatus and full protective gear.

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## 6. ACCIDENTAL RELEASE MEASURES

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Wear appropriate protective equipment (See Section 8). Ventilate area. Determine whether spill notification must be made to the appropriate authorities. Observe all local, state and federal regulations.

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## 7. HANDLING AND STORAGE

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### HANDLING

Wear appropriate protective equipment (See Section 8). Avoid contact with eyes, skin and clothes. Avoid breathing vapors. Keep container closed when not in use. Use with sufficient ventilation to keep area below established exposure levels. Wash thoroughly after handling.

Product and product vapors are flammable.

### STORAGE

Keep container tightly closed. Store in a flammable material area. Isolate from incompatible materials (see Sect. 10).

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### ENGINEERING CONTROLS

Use local exhaust or general dilution ventilation system.

### PERSONAL PROTECTION

- Respirator: Use NIOSH approved equipment only. For exposure above the exposure limit, use a respirator that has been selected by an industrial hygienist or other technically qualified person for the specific work conditions. If respirators are used, OSHA requires compliance with its respiratory program.
- Eye Protection: Wear vented safety goggles.
- Gloves: Wear gloves impervious to Xylene, Toluene and Ethyl Benzene such as SilverShield or 4H.
- Clothing: Wear clothing that will protect the skin from exposure to this chemical. During emergency or while making repairs, wear clothing that will not allow this chemical to penetrate.
- Other: Eye wash; safety shower.

## EXPOSURE CONTROLS

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COMPONENT	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Xylene	100 ppm	N/E	100 ppm	N/E
Carbon Black*	3.5 mg/m <sup>3</sup>	N/E	3.5 mg/m <sup>3</sup>	N/E
Titanium Dioxide*	15 mg/m <sup>3</sup>	N/E	10 mg/m <sup>3</sup>	N/E
Ethyl Benzene	100 ppm	125 ppm	100 ppm	125 ppm

\* Exposure limits are provided for information only. These chemicals are not in a respirable form in these products.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

State .....	Paste	Vapor Density .....	Heavier than air
Color .....	Various	Reactivity in Water .....	Negligible
Odor .....	Petroleum	Specific Gravity .....	0.93
Melting Point °F .....	>300	Water Solubility .....	Negligible
Boiling Point .....	N/E	pH.....	NA
Vapor Pressure (mm Hg).....	14 (calculated)		

## 10. STABILITY AND REACTIVITY

### REACTIVITY

Stable.

### INCOMPATIBILITIES

Avoid contact with strong acids, caustic materials and oxidizers.

### HAZARDOUS DECOMPOSITION PRODUCTS

May form oxides of carbon and various unidentified organic compounds.

### CONDITIONS TO AVOID

Avoid temperatures above 120 °F.

## 11. TOXICOLOGICAL INFORMATION

**For Product:** None for Product

**For Carbon Black:** IARC – Group 2B (Possibly carcinogenic to humans)

**For Ethyl Benzene:** ACGIH – A3-confirmed animal carcinogen; BEI

### \*For Titanium Dioxide (White ONLY)

Trochimowicz, *et al.*, *J. Appl. Tox.*, **8**, 383-385 (1988).

Oral LD <sub>50</sub> (rat)	>25 g/kg
Dermal LD <sub>50</sub> (rabbit)	>10 g/kg
Inhalation LC <sub>50</sub> (rat)	>6.82 mg/l (4 hr)

E.I. DuPont's Haskell Toxicology Laboratory conducted lifetime inhalation studies of respirable titanium dioxide at levels up to 250 mg/m<sup>3</sup>; no compound related clinical signs of toxicity were seen in the exposed animals. Slight pulmonary fibrosis was seen at 50 to 250 mg/m<sup>3</sup> respirable titanium dioxide but not at 10 mg/m<sup>3</sup>. There was no evidence of cancer in animals exposed to 10 or 50 mg/m<sup>3</sup> respirable titanium dioxide. Microscopic lung tumors were seen in 17 percent of the rats exposed to 250 mg/m<sup>3</sup> respirable titanium dioxide. The lung tumors observed

in the rats were different from common human lung cancers, relative to anatomic type and location, and occurred only at dust levels which overwhelmed the animals lung clearance mechanism and therefore, are of questionable biological relevance for man.

Results of a DuPont epidemiology study showed that employees who had been exposed to titanium dioxide pigments were at no greater risk of developing lung cancer than were employees who had not been exposed to titanium dioxide pigments. No pulmonary fibrosis was found in any of the employees and no associations were observed between titanium dioxide pigment exposure and chronic respiratory disease or lung abnormalities. Based on the results of this study, DuPont concluded that titanium dioxide pigment will not cause lung cancer or chronic respiratory disease in humans at concentrations experienced in the workplace.

The National Cancer Institute (NCI) conducted a feed study in rats and mice in which either 25,000 or 50,000 parts per million titanium dioxide was given in their diet for two years. Under the condition of the NCI test, titanium dioxide did not cause cancer by the oral route.

Titanium dioxide has been classified by the American Congress of Governmental Industrial Hygienists (ACGIH) as an A4 Carcinogen - *Not Classifiable as a Human Carcinogen*. ("1999 TLVs and BEIs," p. 67). It has been classified by the International Agency for Research on Cancer (IARC) as Group 3 - *Not Classifiable as to Its Carcinogenicity to Humans*. (IARC Monograph 47, 1989).

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## 12. ECOLOGICAL INFORMATION

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**For Product:** ..... None for Product

**For Xylene:** ..... LC50 (96 hr) fathead minnow: 16.1 mg/L.  
..... LC50 (96 hr) rainbow trout: 8.05 mg/L.

**For Ethyl Benzene:** ..... LC50 (96 hr) fathead minnow: 12.1 mg/L.  
..... LC50 (96 hr) rainbow trout: 14.0 mg/L.

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## 13. DISPOSAL CONSIDERATIONS

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RCRA Waste Code:.....Not Regulated.

Do not allow material to enter sewer systems. Observe all applicable federal, state, and local regulations.

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## 14. TRANSPORT INFORMATION

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DOT Proper Shipping Name ..... Solids containing flammable liquids, n.o.s., (Xylene)

DOT Hazard Class.....4.1 (Flammable Solid)

DOT I.D. Number ..... UN 3175

Packing Group ..... II

Label(s).....Flammable Solid

NAERG - Guide No. .... 133

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## 15. REGULATORY INFORMATION

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OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)

Hazardous

Non-Hazardous

CERCLA/SUPERFUND (40 CFR 117, 302)

Chemical Name	RQ (lbs)/(kg)
Xylene	100 lb. / 45.4 kg
Toluene	1000 lb. / 454 kg
Ethyl Benzene	1000 lb. / 454 kg

SARA EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355)

Chemical Name	TPQ (lbs)	RQ (lbs)
N/A	N/A	N/A

SARA HAZARD CATEGORIES (40 CFR 370)

Acute     Chronic     Fire     Pressure     Reactive     None

SARA TOXIC CHEMICALS (40 CFR 372)

Chemical Name	CAS Number	%
Xylene	1330-20-7	<26
Ethylbenzene	100-41-4	<6

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (CPR Section (33))

This product has been classified according to the hazard criteria of the Controlled Products Regulations, and the MSDS contains all required information.

Controlled Product; Classification: B4, D2A, D2B     Not a Controlled Product

INVENTORY STATUS

The ingredients of this chemical are listed on the US TSCA Chemical Substance Inventory and the Canadian Domestic Substances List.

TOXIC SUBSTANCES CONTROL ACT

No specific regulations apply.

STATE REGULATIONS

Florida Hazardous Substance List ..... Xylene, Ethyl Benzene  
 Massachusetts Right to Know List ..... Xylene, Ethyl Benzene  
 Minnesota Hazardous Substance List ..... Xylene, Ethyl Benzene  
 New Jersey Right to Know List ..... Xylene (SN 2014), Ethyl Benzene (SN 0851)  
 Pennsylvania Right to Know List ..... Xylene, Ethyl Benzene  
 Rhode Island Hazardous Substance List ..... Xylene, Ethyl Benzene  
 California Proposition 65 ..... Toluene, Benzene, Formaldehyde, \*Crystalline Silica (27-A White)

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**16. OTHER INFORMATION**

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ABBREVIATIONS

C - Ceiling limit

LC<sub>Lo</sub> - The lowest concentration of a substance in air that will kill a test animal within a certain exposure period.

LC<sub>50</sub> - The concentration of a substance in air that will kill 50% of test animals within a certain exposure period.

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LD<sub>50</sub> - The dose that causes death in 50% of test animals.  
N/A - Not applicable  
N/D - Not determined  
N/E - Not established  
N/K - Not known  
NAERG - North American Emergency Response Guidebook  
RQ - Reportable Quantity  
TPQ - Threshold Planning Quantity

#### PREPARATION INFORMATION

Prepared by: ..... Manus Chemical Safety and Health Department  
MSDS No.: ..... MANUS-SEAL 27-A  
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