Manus Products, Inc. MANUS-BOND 65-B, 65-H; (White, gray, black)

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Brand Name .....MANUS-BOND 65-B, 65-H
Product Use.....Adhesive / Sealant
Product Identification Number .....UN 1133

MANUFACTURER

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

EMERGENCY TELEPHONE NUMBER

CHEMTREC: 800-424-9300

Plant Telephone: 952 442-3323

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	WEIGHT %
Xylene	1330-20-7	<60
Carbon Black	1333-86-4	<1
Ethyl Benzene	100-41-4	<10
Titanium Dioxide	13463-67-7	<10

See Section 15 of this MSDS for OSHA Regulatory Status

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Thick paint with petroleum odor; various colors.

Warning - Flammable liquid and vapor (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_2.

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

4. FIRST AID MEASURES

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 slowly and gently with water for at least 15 minutes while holding eyelids apart to ensure rinsing of the entire surface of the eyes and lids with water. Remove any contact lenses after the first 5 minutes and then continue flushing eyes. 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.

5. FIRE FIGHTING MEASURES

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_2, or dry chemical. For large fires, use water spray, fog, or foam.

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.

6. ACCIDENTAL RELEASE MEASURES

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

7. HANDLING AND STORAGE

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. Keep away from heat, sparks and flame.

STORAGE

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS

Use local exhaust or general dilution ventilation system.

PERSONAL PROTECTION

Respirator: For exposures above the established limits, use a NIOSH approved 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 protection program (29 CFR 1910.134).

Eye Protection: Wear vented safety goggles.

Gloves: Wear gloves impervious to xylene, toluene and ethylbenzene, 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

COMPONENT	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Xylene	100 ppm	N/E	100 ppm	150 ppm

COMPONENT	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Carbon Black*	3.5 mg/m³	N/E	3.5 mg/m³	N/E
Ethyl Benzene	100 ppm	125 ppm	100 ppm	125 ppm
Titanium Dioxide*	15 mg/m³	N/E	10 mg/m³	N/E

* Exposure limits are provided for information only. These chemicals are not in a respirable form in this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

State ..... Thick paint
Color ..... Various
Odor ..... Petroleum
Melting Point °F ..... >300
Boiling Point ..... N/E
Vapor Pressure (mm Hg) .... 7.1(calculated)
Vapor Density ..... Heavier than air
Reactivity in Water ..... Negligible
Specific Gravity ..... 0.97 – 1.05
Water Solubility ..... Negligible
pH ..... NA

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 available

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

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

For Titanium Dioxide

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

Oral LD_{50} (rat)	>25 g/kg
Dermal LD_{50} (rabbit)	>10 g/kg
Inhalation LC_{50} (rat)	>6.82 mg/l (4 hr)

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

12. ECOLOGICAL INFORMATION

For Product: .....None available

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.

13. DISPOSAL CONSIDERATIONS

RCRA Waste Code: ..... D001.

Do not allow material to enter sewer systems. This product, including spill cleanups, is prohibited from land disposal without prior treatment; see 40 CFR 268.40 for guidance. Observe all applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT Proper Shipping Name..... Adhesives
DOT Hazard Class 3
DOT I.D. Number ..... UN 1133
Packing Group II
Label(s) ..... Flammable Liquid
NAERG - Guide No. 128

15. REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)

3 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)

3 Acute 3 Chronic 3 Fire _ Pressure _ Reactive _ None

SARA TOXIC CHEMICALS (40 CFR 372)

Chemical Name	CAS Number	%
Xylene	1330-20-7	< 60
Ethylbenzene	100-41-4	< 10

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.

3 Controlled Product; Classification: B2, 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

California Proposition 65..... Toluene, Benzene, Formaldehyde, Crystalline Silica
Florida Hazardous Substance List..... Xylene, Ethyl Benzene
Massachusetts Right to Know List..... Xylene, Ethyl Benzene, Carbon Black, Titanium Dioxide
Minnesota Hazardous Substance List..... Xylene, Ethyl Benzene, Carbon Black, Titanium Dioxide
New Jersey Right to Know List..... Xylene (SN 2014), Ethyl Benzene (SN 0851), Carbon Black (SN 0342), Titanium Dioxide (SN 1861)
Pennsylvania Right to Know List..... Xylene, Ethyl Benzene, Carbon Black, Titanium Dioxide
Rhode Island Hazardous Substance List..... Xylene, Ethyl Benzene, Carbon Black, Titanium Dioxide

16. OTHER INFORMATION

ABBREVIATIONS

C - Ceiling limit

LC_{Lo} - The lowest concentration of a substance in air that will kill a test animal within a certain exposure period.
LC_{50} - The concentration of a substance in air that will kill 50% of test animals within a certain exposure period.
LD_{50} - 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-BOND 65-B, 65-H (White, gray, black)
Date Prepared:.....November 6, 2003
Date of Issue: .....November, 2003
Supersedes: .....November 12, 2001

REVISION INFORMATION

Section 6: Added additional measure.
Section 7: Added additional measure after flammability statement.
Section 8: Removed exposure limits for magnesium oxide fume which is not applicable.
Section 14: Correct RCRA classification.