
1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Brand Name..... MANUS-BOND 73-A; White, Aluminum, Clear, Black
General Description.....Silicone Elastomer
Physical Form.....Paste
Odor.....Acetic acid odor
NFPA Profile.....Health 2 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. OSHA Hazardous Components

CHEMICAL NAME	CAS NUMBER	WEIGHT %
Methyltriacetoxysilane	4253-34-3	1.0-5.0
Ethyltriacetoxysilane	17689-77-9	1.0-5.0

The above components are hazardous as defined in 29 CFR 1910.1200.

3. EFFECTS OF OVEREXPOSURE

Acute Effects

- Inhalation: Irritates respiratory passages very slightly.
- Eye: Direct contact may cause moderate irritation.
- Skin: May cause moderate irritation.
- Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

- Skin: No known applicable information.
- Inhalation: No known applicable information.
- Oral: No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information

Medical Conditions Aggravated by Exposure

No known applicable information

The above listed potential effects of overexposure are based on actual data, results of studies performed upon

similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

4. FIRST AID MEASURES

Inhalation: No first aid should be needed.

Eye: Immediately flush with water for 15 minutes. Get medical attention.

Skin: Remove from skin and wash thoroughly with soap and water or waterless cleanser. Get medical attention if irritation or other ill effects develop or persist.

Oral: No first aid should be needed.

Comments: Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point: Not applicable

Autoignition
Temperature: Not determined

Flammability
Limits in Air: Not determined

Extinguishing
Media: On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO₂), dry chemical or water spray. Water can be used to cool fire-exposed containers.

Firefighting
Measures: Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.

Unusual Fire
Hazards: None

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up: Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since some silicone materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable.

Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills.

7. HANDLING AND STORAGE

Use with adequate ventilation. Product evolves acetic acid (HOAc) when exposed to water or humid air. Provide ventilation during use to control HOAc within exposure guidelines or use respiratory protection. Avoid eye contact. Avoid skin contact. Do not breathe vapor. Keep container closed. Do not take internally.

Use reasonable care and store away from oxidizing materials. Keep container closed and store away from water or moisture.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Component Exposure Limits

<u>CAS Number</u>	<u>Component Name</u>	<u>Exposure Limits</u>
17689-77-9	Ethyltriacetoxysilane	See acetic acid comments.
4253-34-3	Methyltriacetoxysilane	See acetic acid comments.

Acetic acid is formed upon contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL: TWA 10 ppm and ACGIH TLV: TWA 10 ppm, STEL 15 ppm.

Engineering Controls

Local Ventilation: Recommended.

General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Inhalation: No respiratory protection should be needed.

Eyes: Use proper protection – safety glasses as a minimum.

Suitable Gloves: Silver Shield (R). 4H (R).

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Suitable
Respirator: None should be needed.

Personal Protective Equipment for Spills

Eyes: Use proper protection—safety glasses as a minimum.

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon

as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Inhalation/Suitable

Respirator: No respiratory protection should be needed.

Precautionary

Measures: Avoid eye contact. Avoid skin contact. Use reasonable care.

Comments: Product evolves acetic acid (HOAc) when exposed to water or humid air. Provide ventilation during use to control HOAc within exposure guidelines or use respiratory protection.

When heated to temperatures above 150°C in the presence of air, product can form formaldehyde vapors. Formaldehyde is a potential cancer hazard, a known skin and respiratory sensitizer, and an irritant to the eyes, nose, throat, skin, and digestive system. Safe handling conditions may be maintained by keeping vapor concentrations within the OSHA Permissible Exposure Limit for formaldehyde.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form.....	Paste	Vapor Density.....	Not determined
Color.....	White, Alum, Clear, Black	Vapor Pressure @ 25°C.....	Not determined
Odor.....	Acetic acid odor	Volatile Content.....	Not determined
Freezing/Melting Point.....	Not determined	Specific Gravity @ 25°C.....	1.032
Boiling Point.....	Not determined	Water Solubility.....	Not determined
pH.....	Not determined	Viscosity.....	Not determined

Note: The above information is not intended for use in preparing product specifications.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous

Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction. Water, moisture, or humid air can cause hazardous vapors to form as described in Section 8.

11. TOXICOLOGICAL INFORMATION

Special Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

No specific information is available.

Environmental Effects

No specific information is available.

Fate and Effects in Waste Water Treatment Plants

No specific information is available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <=2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (ICAO)

Not subject to IATA regulations.

15. REGULATORY INFORMATION

Contents of this MSDS comply with OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA Sara Title III Chemical Listings

Section 302 Extremely Hazardous Substances:

None.

Section 304 CERCLA Hazardous Substances:

None.

Section 312 Hazard Class:

Acute: Yes
Chronic: No
Fire: No
Pressure: No
Reactive: No

Section 313 Toxic Chemicals:

None present or non present in regulated quantities.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

<u>CAS Number</u>	<u>Wt%</u>	<u>Component Name</u>
7631-86-9	10.0-30.0	Silica, amorphous

New Jersey

<u>CAS Number</u>	<u>Wt%</u>	<u>Component Name</u>
70131-67-8	> 60.0	Dimethyl siloxane, hydroxy-terminated
7631-86-9	10.0-30.0	Silica, amorphous
4253-34-3	1.0-5.0	Methyltriacetoxysilane
63148-62-9	1.0-5.0	Polydimethylsiloxane (White, Aluminum, Black only)
17689-77-9	1.0-5.0	Ethyltriacetoxysilane
1333-86-4	<=0.9	Carbon Black (Black only)

Pennsylvania

<u>CAS Number</u>	<u>Wt%</u>	<u>Component Name</u>
70131-67-8	>60.0	Dimethyl siloxane, hydroxy-terminated
7631-86-9	10.0-30.0	Silica, amorphous

PREPARATION INFORMATION

Prepared by: Manus Chemical Safety and Health Department
MSDS No.: MANUS-BOND 73-A Silicone
Date Prepared: December, 2009
Date of Issue: December, 2009
Supersedes: November, 2006