
1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

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

Note: NFPA = National Fire Protection Association

MANUFACTURER

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

EMERGENCY TELEPHONE NUMBER

CHEMTREC: 800-424-9300

Plant Telephone: 952 442-3323

2. OSHA Hazardous Components

CHEMICAL NAME	CAS NUMBER	WEIGHT %
Hydrotreated Middle Petroleum Distillates	64742-46-7	15.0-40.0
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: Repeated or prolonged contact may cause defatting and drying of skin which may result in skin irritation and dermatitis.
- Inhalation: No known applicable information.
- Oral: Repeated ingestion or swallowing large amounts may injure internally .

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: If symptoms are experienced remove source of contamination or move victim to fresh air. If irritation persists, obtain medical advice.
- Eye: Immediately flush with water for 15 minutes. If contact lens is present, DO NOT delay irrigation or attempt to remove the lens. 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: If irritation or discomfort occur, obtain medical advice.
- Comments: Treat according to person's condition and specifics of exposure.
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5. FIRE FIGHTING MEASURES

- Flash Point: > 212°F / >100°C (Closed Cup)
- 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
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Hazardous Decomposition Products

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

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 take internally. Do not breathe vapor. Keep container closed.

Use reasonable care and store away from oxidizing materials. Keep container closed and store away from water or moisture. This material in its finely divided form presents an explosion hazard. Follow NFPA 654 (for chemical dusts) or 484 (for metal dusts) as appropriate for managing dust hazards to minimize secondary explosion potential.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Component Exposure Limits

<u>CAS Number</u>	<u>Component Name</u>	<u>Exposure Limits</u>
64742-46-7	Hydrotreated middle petroleum distillates	OSHA PEL (final rule) and ACGIH TLV for oil mists: TWA 5 mg/m ³
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: Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.

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

MANUS-BOND 73-GP Silicone
White, Aluminum, Clear and Black

Suitable Gloves: Avoid skin contact by implementing good industrial hygiene practices and procedures. Select and use gloves and/or protective clothing to further minimize the potential for skin contact. Consult with your glove and/or personnel protective equipment manufacturer for selection of appropriate compatible materials.

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: Respiratory protection is not needed under ambient conditions. If vapor is generated when material is heated or handled, the following is advised. General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators..

Personal Protective Equipment for Spills

Eyes: Use full respirator.

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: Respiratory protection recommended. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MHSA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Precautionary Measures: Avoid eye contact. Avoid skin contact. Do not take internally. Avoid breathing vapor. Keep container closed. 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.

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	Freezing/Melting Point	Not determined
Color	White, Alum, Clear, Black	Boiling Point	Not determined
Odor	Acetic acid odor	pH.....	Not determined
		Vapor Density.....	Not determined

Vapor Pressure @ 25°C.....Not determined
Volatile ContentNot determined
Specific Gravity @ 25°C0.96

Flash Point.....>212°F / >100°C (closed cup)
Water Solubility.....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.

Hazardous Decomposition Products

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

11. TOXICOLOGICAL INFORMATION

Component Toxicology Information

Inhalation of fumes may result in metal fume fever, a flu-like illness with symptoms of metallic taste, fever and chills, aches, chest tightness, and cough.

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

<u>Hazard Parameters (LC50 or EC50)</u>	<u>High</u>	<u>Medium</u>	<u>Low</u>
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 (40 CFR 355):

None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):

None.

Section 311/312 Hazard Class (40 CFR 370):

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

Section 313 Toxic Chemicals:

None present or non present in regulated quantities.

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

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	<=7.8	Silica, amorphous
58-36-6	<0.1	10,10-Oxydiphenoxarsine

New Jersey

<u>CAS Number</u>	<u>Wt%</u>	<u>Component Name</u>
70131-67-8	> 60.0	Dimethyl siloxane, hydroxy-terminated
64742-46-7	15.0 - 40.0	Hydrotreated middle petroleum distillates
7631-86-9	<=7.8	Silica, amorphous
4253-34-3	1.0-5.0	Methyltriacetoxysilane
17689-77-9	1.0-5.0	Ethyltriacetoxysilane
1333-86-4	<=0.9	Carbon Black

Pennsylvania

<u>CAS Number</u>	<u>Wt%</u>	<u>Component Name</u>
70131-67-8	>60.0	Dimethyl siloxane, hydroxy-terminated
64742-46-7	15.0 - 40.0	Hydrotreated middle petroleum distillates
7631-86-9	<=7.8	Silica, amorphous

PREPARATION INFORMATION

Prepared by: Manus Chemical Safety and Health Department

MSDS No.: MANUS-BOND 73-GP Silicone

Date of Issue: December, 2012