Trade name: FORMOBOND PERFORMANCE POLYMER ADHESIVE/SEALANT

SECTION 1: Identification

Product identifier used on the label:
Product Name: Formobond Performance Polymer Adhesive/Sealant

Other means of identification:
Product Code Number: OA12 (W or G)

Recommended use of the chemical and restrictions on use:
Recommended use: Adhesive/Sealant
Recommended restrictions: Uses other than those described above

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:

Company Name: Applichem.
Company Address: 3211 Nebraska Ave. Council Bluffs, IA, 51501. U.S.
Company Telephone: 402-731-9300
Contact Name:
Contact Email: info@applicheminc.com

Emergency phone number: Chemtrec 1 (800)-424-9300

SECTION 2: Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200:
Physical hazards
None expected

Health hazards
Carcinogenicity, category 1A
Reproductive toxicity, category 1B

Environmental hazards
Not adopted under OSHA paragraph (d) of §1910.1200

GHS Signal word: DANGER

GHS Hazard statement(s): May cause cancer
May damage fertility

GHS Hazard symbol(s):

GHS Precautionary statement(s):

Prevention:

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Wear protective gloves/protective clothing/eye protection/face protection

Response:

- If exposed or concerned: Get medical advice/attention.

Storage:

- Store locked up

Disposal:

- Dispose of contents/container to an approved disposal site in accordance with local/regional/national/ international regulations

Hazard(s) not otherwise classified (HNOC):
None known.

Percentage of ingredient(s) of unknown acute toxicity:
Not applicable.

SECTION 3: Composition/information on ingredients

Chemical name	CAS#	Concentration (weight %)
Bisamide Mixture	proprietary	3.5%
Trimethoxy vinylsilane VTMO	2768-02-7	1.1%
Dibutylbis(pentane-2,4-dionato-O,O') tin	22673-19-4	0.5%
Bis (2,2,6,6-tetramethyl-4-piperidyl) sebacate	52829-07-9	0.3%
Quartz (fine fraction)	14808-60-7	< 0.17%

Note: The balance of the ingredients is not classified as hazardous or are below the concentration limit to be classified as hazardous, under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

SECTION 4: First-aid measures

Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion:

Inhalation: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Seek medical advice.

Skin contact: Wash with water and soap and rinse thoroughly. Seek medical advice if irritation or pain develops.

Eye contact: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. If irritation occurs, call a physician.

Ingestion: Do NOT induce vomiting. If swallowed, wash mouth out with water provided the person is conscious. Follow with plenty of water. NEVER GIVE LIQUIDS TO AN UNCONCIOUS PERSON. Call a physician.

Most important symptoms/effects, acute and delayed:
May cause cancer. May damage fertility.

Indication of immediate medical attention and special treatment needed:
If any symptoms are observed, contact a physician and give them this SDS sheet. Treat symptomatically.

SECTION 5: Fire-fighting measures

Suitable (and unsuitable) extinguishing media:
Suitable extinguishing media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):
Not expected to be flammable.
Hazardous combustion products may include the following substances: Carbon monoxide, carbon dioxide, silicon oxides, nitrogen oxides, toxic and irritating gases.

Special protective equipment and precautions for fire-fighters:
Use water spray or fog for cooling exposed containers. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate all non-emergency personnel from area. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:
No action shall be taken involving any personal risk or without suitable training. Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate personal protective equipment. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Environmental Precautions:
Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. If spill occurs on water notify appropriate authorities.

Methods and material for containment and cleaning up:
Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area).
Large Spills: Stop the flow of material if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.
Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g., cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

Precautions for safe handling:
Do not handle, store or open near an open flame, sources of heat or sources of ignition. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

Conditions for safe storage, including any incompatibles:
Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS). Recommended storage temperature: < 120 °C

SECTION 8: Exposure controls/personal protection

OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.

Substance	**OSHA PEL**	**ACGIH TLV**	**NIOSH IDLH**
Bisamide Mixture	15 mg/m3 (total dust) 5 mg/m3 (respirable fraction)	10 mg/m3 (inhalable) 3 mg/m3 (respirable)	None known
Trimethoxy vinylsilane VTMO	None known	None known	None known
Dibutylbis(pentane-2,4-dionato-O,O') tin	0.1 mg/m3 TWA (Organic compounds as Sn)	0.1 mg/m3 8hr 0.2 mg/m3 15mins (Organic compounds as Sn)	PELs 0.1 mg/m3 8hr 0.2 mg/m3 15min (Organic compounds as Sn)
Bis (2,2,6,6-tetramethyl-4-piperidyl) sebacate	None known	None known	None known
Quartz (fine fraction)	Final PEL - 50 µg/m3 TWA (listed under Respirable crystalline silica) Table Z-3 Mineral dusts - (250)/(%SiO2 + 5) mppcf TWA, respirable fraction; (10)/(%SiO2 + 2) mg/m3 TWA, respirable fraction	0.025 mg/m3 TWA (respirable particulate matter)	50 mg/m3 IDLH (respirable dust) 0.05 mg/m3 TWA (respirable dust)

Appropriate engineering controls:
Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.
If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Eye wash fountain and emergency showers are recommended. Concentrations should be monitored hazardous substances in the workplace in accordance with recognized test methods. Mode, method, type and frequency of testing and measurement of harmful factors in the working environment should meet the requirements of local/regional/national laws.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Wear safety glasses, safety glasses with side shields or safety goggles. Use equipment for eye protection tested and approved under NIOSH standards.

Skin and hand protection: Wear chemical-resistant gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: Chemical resistant apron.

Respiratory protection: 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. 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.

General hygiene considerations: When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9: Physical and chemical properties

Appearance (physical state, color, etc.):	
Physical state:	Liquid paste/gel, viscous putty
Color:	White or Grey
Odor:	Slight plastic odor
Odor threshold:	Not available
pH:	8 to 10
Melting point/freezing point:	Not available
Initial boiling point and boiling range:	Not available
Flash point:	> 250 °F (> 121 °C)
Evaporation rate:	Not available
Flammability (solid, gas):	Not applicable.
Upper/lower flammability or explosive limits	
Lower limit (%):	Not available
Upper limit (%):	Not available
Vapor pressure:	Not available
Vapor density:	Not available
Relative density:	1.52 g/L
Solubility (ies):	Insoluble in water, slightly soluble in ethanol.
Partition coefficient (n-octanol/water):	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity:	1.2 Million cps Brookfield HB Spindle #7 - 10 rpm @ 70°F

SECTION 10: Stability and reactivity

Reactivity:	Not reactive under recommended storage and handling conditions.
Chemical stability:	Stable under recommended storage and handling conditions.
Possibility of hazardous reactions:	Hazardous reactions not anticipated under recommended storage and handling conditions.
Conditions to avoid:	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials:	Strong oxidizing agents, strong acids, strong alkalis.
Hazardous decomposition Products:	No decomposition if used and stored according to specifications. In case of fire the following substances may be formed: Carbon monoxide, carbon dioxide, silicon oxides, nitrogen oxides, toxic and irritating gases.

SECTION 11: Toxicological information

Information on likely routes of exposure:

Inhalation:	May cause cancer by inhalation. May cause irritation to the respiratory tract.
Ingestion:	None expected.
Skin:	Repeated and/or prolonged skin contact may cause irritation.
Eyes:	May cause eye irritation.
Target Organs:	Skin, Eyes, Respiratory Tract, Immune system, Reproductive system

Symptoms related to the physical, chemical, and toxicological characteristics:
May cause cancer. May damage fertility.

Delayed and immediate effects and chronic effects from short or long-term exposure:
May cause cancer. May damage fertility.

Numerical measures of toxicity (such as acute toxicity estimates):

Ingredient Information:

Substance	Test Type (species)	Value
Bisamide Mixture	LD_{50} Oral (Rat)	> 2000 mg/kg
	LD_{50} Dermal (Rabbit)	> 2000 mg/kg
	LC_{50} Inhalation (Rat)	None known
Trimethoxy vinylsilane VTMO	LD_{50} Oral (Rat)	7340 µL/kg
	LD_{50} Dermal (Rabbit)	3.54 mL/kg
	LC_{50} Inhalation (Rat)	16.8 mg/L 4 h

Dibutylbis(pentane-2,4-dionato-O,O') tin	LD_{50} Oral (Rat)	1864 mg/kg
	LD_{50} Dermal (Rabbit)	> 2000 mg/kg
	LC_{50} Inhalation (Rat)	None known
Bis (2,2,6,6-tetramethyl-4-piperidyl) sebacate	LD_{50} Oral (Rat)	> 3700 mg/kg
	LD_{50} Dermal (Rabbit)	> 3170 mg/kg
	LC_{50} Inhalation (Rat)	500 mg/m3
Quartz (fine fraction)	LD_{50} Oral (Rat)	500 mg/kg
	LD_{50} Dermal (Rabbit)	None known
	LC_{50} Inhalation (Rat)	None known

Skin corrosion/irritation: Does not meet the criteria for classification

Serious eye damage/eye irritation: Does not meet the criteria for classification

Respiratory sensitization: Does not meet the criteria for classification

Skin sensitization: Does not meet the criteria for classification

Germ cell mutagenicity: Does not meet the criteria for classification

Carcinogenicity: May cause cancer.

Reproductive toxicity: May damage fertility.

Specific target organ toxicity-Single exposure: Does not meet the criteria for classification

Specific target organ toxicity-Repeat exposure: Does not meet the criteria for classification

Aspiration hazard: Does not meet the criteria for classification

Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA:

Component	IARC	NTP	ACGIH	OSHA
Bisamide Mixture	Not Listed	Not Listed	Not Listed	Not Listed
Trimethoxy vinylsilane VTMO	Not Listed	Not Listed	Not Listed	Not Listed
Dibutylbis(pentane-2,4-dionato-O,O') tin	Not Listed	Not Listed	Not Listed	Not Listed
Bis (2,2,6,6-tetramethyl-4-piperidyl) sebacate	Not Listed	Not Listed	Not Listed	Not Listed

Component	IARC	NTP	ACGIH	OSHA
Quartz (fine fraction)	Monograph 100C [2012] (listed under Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources); Monograph 68 [1997]	Known Human Carcinogen (listed under Silica, crystalline (respirable size))	A2 - Suspected Human Carcinogen	Present

SECTION 12: Ecological information

Ecotoxicity (aquatic and terrestrial, where available): May cause long lasting harmful effects to aquatic life.

Substance	Test Type	Species	Value
Bisamide Mixture	LL_{50}	Fish - Oncorhynchus mykiss	> 100 mg/L 96h
	EL_{50}	Aquatic Invertebrates - Daphnia Magna	> 100 mg/L 48h
	EC_{50}	Algae	None known
Trimethoxy vinylsilane VTMO	LC_{50}	Fish - Oncorhynchus mykiss	> 2 mg/L 96h
	EC_{50}	Aquatic Invertebrates	None known
	EC_{50}	Algae	None known
Dibutylbis(pentane-2,4-dionato-O,O') tin	LC_{50}	Fish - Oryzias latipes	> 2 mg/L 96h
	EC_{50}	Aquatic Invertebrates - Daphnia Magna	0.004 mg/L
	EC_{50}	Algae - freshwater algae	> 2mg/L 72h
Bis (2,2,6,6-tetramethyl-4-piperidyl) sebacate	LC_{50}	Fish - Lepomis macrochirus	4.4 mg/L 96h
	EC_{50}	Aquatic Invertebrates -Daphnia Magna	8.6 mg/L 48h
	EC_{50}	Algae	None known
Quartz (fine fraction)	LC_{50}	Fish	None known
	EC_{50}	Aquatic Invertebrates	None known
	EC_{50}	Algae	None known

Persistence and Degradability:
No data available for this product

Bioaccumulative Potential:
No data available for this product

Mobility in Soil:
No data available for this product

Other adverse effects (such as hazardous to the ozone layer):
May cause long lasting harmful effects to aquatic life.

SECTION 13: Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.
Product
Dispose of waste materials in accordance with applicable local and national laws and regulations. Where possible, recycling is preferred to disposal or incineration. Contact the proper local authorities.

Contaminated packaging
Since emptied containers retain product residue, follow label warnings even after container is emptied. Dispose of as unused product.

EPA Waste Code: U154

SECTION 14: Transport Information

US Department of Transportation Classification (49CFR)
Not regulated under DOT.

IMDG (Transport by sea)
Not regulated under IMDG.

IATA (Country variations may apply)
Not regulated under IATA.

Environmental hazards
Marine pollutant: No

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)
No further relevant information available.

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.
None known

SECTION 15: Regulatory Information

USA:

United States Federal Regulations: This SDS complies with the OSHA, 29 CFR 1910.1200. The product is classified as hazardous under OSHA.

Toxic Substances Control Act (TSCA) – All components are listed on the TSCA inventory.

CERCLA RQ (lbs) Ingredients (> 0.1%):
None of the components are listed

SARA Superfund and Reauthorization Act of 1986 Title III sections 302, 311, 312 and 313:
Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A) (> 0.1%):
None of the components are listed

Section 311/312 (40 CFR 370) (> 0.1%):
Carcinogenicity
Reproductive toxicity

Section 313 Toxic Release Inventory (40 CFR 372) (> 0.1%):
None of the components are listed

STATE REGULATIONS:

This SDS contains specific health and safety data is applicable for state requirements. For details on your regulatory requirements, you should contact the appropriate agency in your state.

California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986: Quartz (fine fraction) is listed as a carcinogen, 10/1/1988 (airborne particles of respirable size)

Massachusetts Right to Know:
Quartz (fine fraction) is listed

New Jersey Right to Know:
Quartz (fine fraction) is listed

Pennsylvania Right to Know:
Quartz (fine fraction) is listed

SECTION 16: Other Information

Revision Date: July 26, 2022

DISCLAIMER: The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued. The manufacturer MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. Given the variety of factors that can affect the use and application of this product, many of which are solely within the user's knowledge and control, the user is responsible for determining whether the usage of this product is fit for a particular purpose and suitable for the user's method of use or application. It is essential that the user, not the manufacturer, evaluates this product to determine whether it is fit for a particular purpose and suitable for the user's method of use or application.

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