

**Weiss Bonya**

**Gemini®**

# Hydrophobic Oleophobic Hardcoat

Material Safety Data Sheet

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## 1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

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Product Name

"Gemini" Hydrophobic Oleophobic Hardcoat

Tradenames and Synonyms

"Gemini" AnO-167

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## 2. HAZARDS IDENTIFICATION

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**Classification according to Regulation 29CFR 1910 1200**

Flammable liquid, Category 2, H225

Eye irritation, Category 2, H319

**GHS Label elements, including precautionary statements**

**Pictogram**

**Signal word**

Danger



**Hazard statements**

H225 Highly Flammable liquid and vapour

H319 Causes serious eye irritation

**Precautionary statements**

**Prevention**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233 Keep container tightly closed.

P242 Use only non-sparking tools.

P261 Avoid breathing dust/fumes/gas/mist/vapours/spray.

**Response**

P305 + P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.P337 + P313

If eye irritation persists: Get medical advice/attention.

P370 + P378 In case of fire: Use dry sand dry powder CO2 to extinguish.

**Storage**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

**Other hazards**

None known.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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Component	CAS-No.	Concentration
Fluoropolymer	Trade secret	15~25%
Ethanol	64-17-5	75~85%

Any unidentified components and/or concentrations (exact percentages) are considered trade secrets.

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### 4. FIRST AID MEASURES

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**First Aid**

**INGESTION**

If swallowed, wash out mouth with copious amounts of water provided person is conscious, call a physician.

**INHALATION**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**SKIN CONTACT**

In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse.

**EYE CONTACT**

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

**Most important symptoms and effects, both acute and delayed**

Irritant effects, Respiratory paralysis, Dizziness, Narcosis, Inebriation, Euphoria, Nausea, Vomiting

Repeated exposure may cause skin dryness or cracking.

### **Indication of any immediate medical attention and special treatment needed**

No information available.

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## **5. FIRE FIGHTING MEASURES**

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### **Extinguishing Media**

#### **Suitable extinguishing media**

Foam, Carbon dioxide (CO<sub>2</sub>), Dry powder

**Unsuitable extinguishing media** For this substance/mixture no limitations of extinguishing agents are given.

### **Special hazards arising from the substance or mixture**

Combustible.

Pay attention to flashback.

Forms explosive mixtures with air at ambient temperatures.

Vapours are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire.

### **Fire Fighting Instructions**

**Protective equipment:** Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific hazard(s): emits toxic fumes under fire conditions.

**Further information:** Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **6. ACCIDENTAL RELEASE MEASURES**

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### **Safeguards (Personnel) protective equipment and emergency procedures**

**Advice for non-emergency personnel:** Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

**Advice for emergency responders:** Protective equipment see section 8.

### **Environmental precautions**

Prevent further leakage or spillage if safe to do. Take precautions to ensure product does not contaminate the ground or enter the drainage system.

### **Spill Clean Up**

Absorb on dry sand or vermiculite, sweep up and place in container for disposal according to local regulations.

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## 7. HANDLING AND STORAGE

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### Handling (Personnel)

**User exposure:** Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

**Advice on protection against fire and explosion:** Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

**Hygiene measures:** Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

### Storage

Store in cool, well ventilated area. Keep container tightly closed. Keep away from heat and sources of ignition. Avoid direct sunlight.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Control parameters

**TWA, Time-weighted average, STEL, Short-term exposure limit**

Component	CAS	Inst.	Standard
Ethanol	64-17-5	ACGIH	STEL: 1000 ppm
Ethanol	64-17-5	EU	-
Ethanol	64-17-5	TW OEL	TWA: 1000 ppm

### Engineering controls

Safety shower and eye bath. Mechanical exhaust required. More detail see section 7

### Personal protective equipment

Respiratory: Use a full-face respirator with multi-purpose combination (US) or type abek (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face approved under appropriate government standards such as NIOSH(US) or CEN(EU).

Hand: Protective gloves. gloves must be inspected prior to use.

Eyes: Chemical safety goggles.

### General Hygiene measures

Wash thoroughly after handling.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance: Transparent liquid  
Odour: Fruity  
Density: 0.79~0.85 g/cm<sup>3</sup>  
Melting point: -70 °C  
Boiling point /range: 120 °C  
Solubility: insoluble in water  
Flash Point: 27 °C  
Lower explosion limit: 1.7%  
Upper explosion limit: 7.6%  
Explosive properties: Not classified as explosive

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## 10. STABILITY AND REACTIVITY

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### Reactivity

No hazardous reaction under recommended use and storage.

### Stability

Stable: stable under recommended storage conditions.

### Materials to avoid

Strong oxidizing agents, finely divided active metals, alkali and alkaline earth metals.

### Conditions to avoid

Heat, flames and sparks, extremes of temperature, moisture and direct sunlight.

### Hazardous decomposition products

Hazardous decomposition products: no information available.

### Hazardous polymerization

Hazardous polymerization: will not occur.

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## 11. TOXICOLOGICAL INFORMATION

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### Acute Toxicity

Ethanol

Oral: LD50 Rat: 10,470 mg/kg

Dermal: LD50 Rabbit: > 16,000 mg/kg

Inhale: LC50 Rat: 125 mg/l; 4 h

Fluoropolymer

Oral: LD50 Rat: 5,000 mg/kg

Dermal: LD50 Rabbit: > 5,000 mg/kg

### **Route of exposure**

Inhalation: Irritating to the respiratory tract.

Ingestion: Risk of aspiration upon vomiting. Aspiration may cause pulmonary oedema and pneumonitis. Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Skin: No skin irritation.

Eyes: Causes serious eye irritation.

### **Signs and symptoms of long term exposure**

#### **Germ cell mutagenicity**

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

Mutagenicity (mammal cell test): chromosome aberration.

Result: negative

#### **Carcinogenicity**

This information is not available.

#### **Reproductive toxicity**

This information is not available.

#### **Teratogenicity**

This information is not available.

#### **Specific target organ toxicity - single exposure**

This information is not available.

#### **Specific target organ toxicity - repeated exposure**

This information is not available.

#### **Aspiration hazard**

This information is not available.

### **Further information**

#### **Systemic effects**

Euphoria

#### **In high concentrations**

Dizziness, inebriation, narcosis, respiratory paralysis

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## **12. ECOLOGICAL INFORMATION**

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**Toxicity**

Ethanol

Fish: LC50 Fathead minnow: 14,200 mg/l; 96 h

Daphnia and other aquatic invertebrates: EC50 Water flea: 9,268 mg/l; 48 h

Algae: EC50 Green algae: 275 mg/l; 72 h

Fluoropolymer

No data available.

**Persistence and degradability**

Ethanol

Biodegradability

74 %; 5 d

OECD Test Guideline 301E

Readily biodegradable

Theoretical oxygen demand (ThOD)

2.100 mg/g

Fluoropolymer

No data available.

**Bioaccumulative potential**

Ethanol

log Pow: -0.32

(experimental)

(Lit.) Bioaccumulation is not expected.

Fluoropolymer

No data available.

**Mobility in soil**

No data available.

**Other adverse effects**

No data available.

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**13. DISPOSAL CONSIDERATIONS**

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**Disposal operations**

Material should be disposed of in accordance with local, state and federal regulations.

**Disposal of packaging**

Dispose of as special waste in compliance with local and national regulations  
Observe all federal, state and local environmental regulations.

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## 14. TRANSPORTATION INFORMATION

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**UN number (IATA- IMDG) : UN1866**

**Proper shipping name : RESIN SOLUTION**

**Class (IATA- IMDG) : 3**

**Packing group (IATA- IMDG) : II**

**Environmental hazards : None**

**Marine pollutant : None**

**Special precautions for user : None**

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## 15. REGULATORY INFORMATION

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**IECSC:** On the inventory, and in compliance with the CN regulations

**EINECS:** On the inventory, and in compliance with the EU regulations

**ENCS:** On the inventory, and in compliance with the JP regulations

**KECI:** On the inventory, and in compliance with the KR regulations

**EPCRA:** Emergency Planning and Community Right-to-Know

**TSCA:** On the inventory, and in compliance with the US regulations

**AICS:** On the inventory, and in compliance with the AU regulations

**SARA 304** Extremely Hazardous Substances Reportable Quantity

This material does NOT contain any components with a section 304 EHS RQ

**SARA 302** Extremely Hazardous Substances Threshold Planning Quantity

This material does NOT contain any components with a section 302 EHS TPQ

**SARA 311/312 Hazards:** Fire Hazard, Acute Health Hazard

**SARA 313:** This material does NOT contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

**CERCLA Reportable Quantity :** This material does NOT contain any components with a CERCLA RQ

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## 16. OTHER INFORMATION

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NFPA/HMIS Rating: Health: 1 Flammability: 3 Reactivity: 0

REFERENCE: Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012), GHS Classification Guidance for Enterprises 2013 Revised Edition.

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