Weiss Bonya

Gemini®
Hydrophobic Oleophobic Hardcoat

Material Safety Data Sheet

1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Product Name

"Gemini" Hydrophobic Oleophobic Hardcoat

Tradenames and Synonyms

"Gemini" AnO-164

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2. HAZARDS IDENTIFICATION

Classification according to Regulation 29CFR 1910 1200

Flammable liquid, Category 3, H226
Specific target organ toxicity - single exposure, Category 3, Central nervous system, H336

GHS Label elements, including precautionary statements

Pictogram

Signal word

Warning

Hazard statements

H226 Flammable liquid and vapour
H336 May cause drowsiness or dizziness

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

Component	CAS-No.	Concentration
Silicone polymer	Trade secret	35~45%
Propylene glycol methyl ether	107-98-2	45~55%
Ethanol	64-17-5	5~10%

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

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4. FIRST AID MEASURES

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

Extinguishing Media

Suitable extinguishing media
Foam, Carbon dioxide (CO2), 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

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.

7. HANDLING AND STORAGE

Handling (Personnel)

User exposure: Avoid inhalation. Avoid contact with eys, 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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

Component	CAS	Inst.	Standard	
PGME	107-98-2	ACGIH	TWA: 50 ppm	STEL: 100 ppm
PGME	107-98-2	EU	TWA: 100 ppm	STEL: 150 ppm
PGME	107-98-2	TW OEL	TWA: 100 ppm	STEL: 125 ppm
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 handing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Light yellow transparent liquid
Odour: Alcohol like
Density: 0.88~0.92 g/cm^3
Melting point: -97 °C
Boiling point /range: 117 °C
Solubility: insoluble in organic solvents
Flash Point: 31 °C
Lower explosion limit: 2%
Upper explosion limit: 11.5%
Explosive properties: Not classified as explosive

10. STABILITY AND REACTIVITY

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.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
PGME
Oral: LD50 Rat: 4,016 mg/kg
Dermal: LD50 Rabbit: 13,000 mg/kg
Inhale: LC50 Rat: 10 mg/l; 4 h
Ethanol
Oral: LD50 Rat: 10,470 mg/kg

Dermal: LD50 Rabbit: ＞16,000 mg/kg
Inhale: LC50 Rat: 125 mg/l; 4 h
Silicone polymer
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 mild 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.

12. ECOLOGICAL INFORMATION

Toxicity

PGME

Fish: LC50 Fathead minnow: 6,812 mg/l; 96 h

Daphnia and other aquatic invertebrates: EC50 Water flea: 23,300 mg/l; 48 h

Algae: EC50 Green algae: ＞1,000 mg/l; 48 h

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

Silicone polymer

No data available.

Persistence and degradability

PGME

Biodegradability

95 %; 21 d

OECD Test Guideline 301E

Readily biodegradable

Theoretical oxygen demand (ThOD)

2.400 mg/g

Ethanol

Biodegradability

74 %; 5 d

OECD Test Guideline 301E

Readily biodegradable

Theoretical oxygen demand (ThOD)

2.100 mg/g

Silicone polymer

No data available.

Bioaccumulative potential

PGME

Partition coefficient: n-octanol/water

log Pow: -0.437

(experimental)

(Lit.) Bioaccumulation is not expected.

Ethanol

log Pow: -0.32

(experimental)

(Lit.) Bioaccumulation is not expected.

Silicone polymer

No data available.

Mobility in soil
No data available.

Other adverse effects
No data available.

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13. DISPOSAL CONSIDERATIONS

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

UN number (IATA- IMDG) : UN1866

Proper shipping name : RESIN SOLUTION

Class (IATA- IMDG) : 3

Packing group (IATA- IMDG) : III

Environmental hazards : None

Marine pollutant : None

Special precautions for user : None

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15. REGULATORY INFORMATION

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

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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