

Weiss Bonya

Gemini[®]

Anti-adhesion Anti-graffiti Coating

Material Safety Data Sheet

1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Product Name

"Gemini" Anti-adhesion Anti-graffiti Coating

Tradenames and Synonyms

"Gemini" AnO-160

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2. HAZARDS IDENTIFICATION

Classification according to Regulation 29CFR 1910 1200

Flammable liquid, Category 3, H226

Acute toxicity, Inhalation, Category 4, H332

Eye irritation, Category 2, H319

Specific target organ toxicity - single exposure, Category 3, Respiratory system, H335

GHS Label elements, including precautionary statements

Pictogram

Signal word

Warning



Hazard statements

H226 Flammable liquid and vapour

H319 Causes serious eye irritation

H332 Harmful if inhaled

H335 May cause respiratory 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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Silane polymer	Trade secret	75~85%
Tetraethoxysilane	78-10-4	15~25%

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

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.

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.

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 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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

Component	CAS	Inst.	Standard	
TEOS	78-10-4	ACGIH	TWA: 10 ppm	STEL: -
TEOS	78-10-4	EU	TWA: 5 ppm	STEL: -
TEOS	78-10-4	TW OEL	TWA: 10 ppm	STEL: -

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Light yellow transparent liquid

Odour: Ester like

Density: 0.98~1.02 g/cm³

Melting point: -82 °C

Boiling point /range: 168 °C

Solubility: Soluble in organic solvents

Flash Point: 45 °C

Lower explosion limit: 1.3%

Upper explosion limit: 23%

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

TEOS

Oral: LD50 Rat: 6,270 mg/kg
Dermal: LD50 Rabbit: 5,878 mg/kg
Inhale: LC50 Rat: 10 mg/l; 4 h
Silane polymer
Oral: LD50 Rat: 5,000 mg/kg
Dermal: LD50 Rabbit: > 5,000 mg/kg

Route of exposure

Inhalation: May cause 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: Cause 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.

12. ECOLOGICAL INFORMATION

Toxicity

TEOS

Fish: LC50 Fathead minnow: >245 mg/l; 96 h

Daphnia and other aquatic invertebrates: EC50 Water flea: >844 mg/l; 48 h

Algae: EC50 Green algae: >100 mg/l; 48 h

Silane polymer

No data available.

Persistence and degradability

TEOS

Biodegradability

98 %; 28 d

OECD Test Guideline 301E

Readily biodegradable

Theoretical oxygen demand (ThOD)

2.400 mg/g

Silane polymer

No data available.

Bioaccumulative potential

TEOS

Partition coefficient: n-octanol/water

log Pow: 3.18

(experimental)

(Lit.) Bioaccumulation is not expected.

Silane polymer

No data available.

Mobility in soil

No data available.

Other adverse effects

No data available.

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.

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

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

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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