FLAG STONE FIX
STONE CARE EXPERTS

ZYAX GROUP

Material Safety Data Sheet(MSDS)

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SECTION 1: IDENTIFICATION

1.1 Product Identifier

Product name FS ENHANCE & PROTECT +

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of substance/preparation:
Industrial.
Modifying agent for: Building materials.

1.4 Supplier's details

Name	**ZYAX CHEM PVT. LTD.**
Address	3rd Floor, Kamer Building, 38 Cawasji Patel Street, Fort, Mumbai - 400001, India.
Contact	+91 87792 40420
Email	info@zyax.in
Website	www.zyax.in

SECTION 2: HAZARD IDENTIFICATION

Hazard class	Hazard category	Route of exposure
Flammable liquids	Category 3	
Serious eye damage/eye irritation	Category 2	

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical characteristics

polysiloxane, modified

EC-No	CAS No.	Substance	Content %
227-006-8	5593-70-4	Titanium tetrabutanolate	>=1 – <3
200-659-6	67-56-1	Methanol	>=0,3 – <1

SECTION 4: FIRST-AID MEASURES

4.1 Description of necessary first-aid measures

General Information: Ensure the person is moved to a safe location and take necessary precautions for your own safety while providing first aid.

After Contact with Eyes: Immediately rinse the eyes with plenty of water for 10-15 minutes. If irritation persists, seek medical advice.

After Contact with Skin: Remove any contaminated or soaked clothing. Rinse the affected skin thoroughly with soap and water. If there are visible changes to the skin or any other symptoms, seek medical advice and, if possible, bring the label or Safety Data Sheet (SDS).

After Inhalation: Keep the patient calm. If the person is unconscious, place them in a stable sideways position. If breathing stops, administer artificial respiration and protect them from losing body heat. Seek medical advice immediately and clearly identify the substance involved.

After Swallowing: If the person is conscious, give them several small sips of water to drink. Do not induce vomiting. Seek medical advice immediately and clearly identify the substance.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed:

Additional relevant information can be found in other sections of this document.

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4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed:

Methanol (CAS 67-56-1) is quickly absorbed through all exposure routes and is toxic by all routes. Exposure can irritate the mucous membranes, as well as cause symptoms such as nausea, vomiting, headaches, dizziness, visual disturbances (including irreversible blindness due to damage to the optic nerve), acidosis, spasms, narcosis, and coma. There may be a delay in the onset of these effects after exposure.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media

alcohol-resistant foam , carbon dioxide , water mist , sprinkler system , sand , and extinguishing powder .

5.2 Extinguishing media that must not be used for safety reasons

water jet.

5.3 Special Hazards from the Substance or Mixture

There is a risk of hazardous gases or fumes in the event of a fire. Exposure to combustion products may pose a health hazard. Hazardous combustion products include toxic and very toxic fumes.

5.4 Advice for Firefighters

When fighting fires involving this substance, use respiratory protection that is independent of recirculated air. Ensure that unprotected individuals stay at a safe distance.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment, and Emergency Procedures

Secure the affected area immediately. Ensure appropriate personal protective equipment is worn (refer to Section 8). Restrict access to authorised personnel only and keep unprotected individuals at a safe distance. Avoid contact with eyes and skin, and do not inhale gases, vapours, or aerosols. In the event of a spill, be aware of potential slip hazards and avoid walking through the affected area.

6.2 Environmental Precautions

Prevent the substance from entering surface water, drainage systems, sewers, or soil. If it is safe to do so, stop the leak at its source. Contain any escaping material using suitable absorbent materials (e.g., soil). Collect and retain contaminated water, including fire-extinguishing runoff, and dispose of it in properly labelled containers in accordance with regulatory requirements. Notify the appropriate authorities if the substance contaminates surface water, sewage systems, or the ground.

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6.3 Methods and Materials for Containment and Clean-Up

Collect the material mechanically and dispose of it in accordance with applicable local, state, and federal regulations. Do not wash the substance away with water. For small spills, absorb the material using a neutral (non-acidic and non-basic) absorbent such as diatomaceous earth, and dispose of it in compliance with government regulations. For larger spills, recover liquids using appropriate suction equipment or pumps. If the material is flammable, ensure that only air-operated or properly rated electrical equipment is used. Remove any residual slippery film with a detergent, soap solution, or another biodegradable cleaning agent. As silicone fluids present a slip hazard, apply sand or other inert granular material to improve traction and ensure safety.

6.4 Additional Information

Ensure adequate ventilation to disperse vapours. Eliminate all potential sources of ignition and implement appropriate explosion protection measures. Refer to Section 7 for further handling precautions.

6.5 Reference to Other Sections

Review and comply with the relevant information provided in other sections, particularly Section 8 (Personal Protective Equipment) and Section 13 (Disposal Considerations).

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Ensure adequate ventilation. The product must be siphoned off in place. Spilt material presents a slip hazard. Avoid the formation of aerosols. If aerosols are generated, implement appropriate protective measures, including local exhaust ventilation and respiratory protection. Refer to Section 8. Keep away from incompatible substances in accordance with Section 10.

7.2 Precautions Against Fire and Explosion

The product may release methanol. Flammable vapors can accumulate and form explosive mixtures with air in containers, process vessels, including partially filled, empty, or uncleaned containers, and other enclosed spaces. Keep away from ignition sources and do not smoke. Take measures to prevent electrostatic discharge. Cool exposed containers with water.

7.3 Conditions for Safe Storage, Including Any Incompatibilities

7.4 Storage Areas and Vessels

Comply with local, state, and federal regulations.

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7.5 Storage of Incompatible Materials

Comply with local, state, and federal regulations.

7.6 Additional Storage Information

Store in a cool, dry location. Protect from moisture. Keep containers in a well-ventilated area.

7.7 Specific end use(s)

No data available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.2 Maximum airborne concentrations at the workplace:

CAS No.	-
Substance	Aerosol - inhalable fraction
Type	-
mg/m3	10,0
ppm	-
Dust fract.	-
Fibre/m3	-

The aerosol limit specified is a recommendation, should aerosol be formed during processing.

8.3 Exposure Controls

Workplace exposure must be limited and effectively controlled.

8.4 General Protective and Hygiene Measures

Follow standard industrial hygiene practices when handling chemical substances. Do not inhale gases, vapors, or aerosols. Ensure adequate ventilation during use. Avoid contact with eyes and skin, and apply preventive skin protection as appropriate. Remove contaminated or saturated clothing immediately. Clean work areas regularly and provide access to emergency showers and eyewash stations. Do not eat, drink, or smoke while handling the product. Keep it away from food, beverages, and animal feed.

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8.5 Personal Protective Equipment

Respiratory Protection

If inhalation exposure above the occupational exposure limits cannot be ruled out, suitable respiratory protective equipment must be used. Appropriate respiratory equipment includes a positive-pressure self-contained breathing apparatus in accordance with recognized standards such as EN 137.
Follow the manufacturer's instructions and observe specified wear-time limitations for respiratory equipment.

Eye Protection

Wear tightly fitting protective goggles.

Hand Protection

Gloves must be worn at all times when handling the material.

Recommended glove types:
• Protective gloves made of butyl rubber
Material thickness: greater than 0.5 mm
Breakthrough time: greater than 480 minutes

• Protective gloves made of nitrile rubber
Material thickness: greater than 0.4 mm
Breakthrough time: 10 to 30 minutes

Follow the glove manufacturer's instructions regarding permeability and breakthrough time. Consider the specific local conditions under which the product is used, including risks such as cuts, abrasion, and duration of contact. Due to various external factors, such as temperature, the actual service life of chemically resistant gloves in daily use may be significantly shorter than the stated breakthrough time.

Skin Protection

When handling without adequate covering, wear appropriate chemical protective clothing. Full-body, liquid-tight protective clothing may be required where necessary. Follow the manufacturer's guidance regarding permeability time.

Environmental Exposure Controls

Prevent the material from entering surface water, drainage systems, sewers, or soil.

Additional Information on System Design and Engineering Measures

Refer to Section 7 and comply with applicable national regulatory requirements.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Property: Value: Method: Appearance
Physical state : liquid
Colour : colourless dark

Odour
Odour : pleasant

Odour limit
Odour limit : no data available

pH-Value
pH-Value : not applicable

Melting point/freezing point
Melting point/melting range : not applicable

Initial boiling point and boiling range
Boiling point / boiling range : ca. 180 °C at 1013 hPa (EU-GL.A.2) Flash point
Flash point : 40 °C (ISO 3679)
Sustained combu'stibility : > 110 °C (ISO 9038) Evaporation rate
Evaporation rate : no data available

Upper/lower flammability or explosive limits
Lower explosion limit (LEL) : not applicable
Upper explosion limit (UEL) : not applicable

Vapour pressure
Vapour pressure : 43 hPa / 20 °C (EU-GL.A.4) Solubility(ies)
Water solubility/miscibility : not applicable

Vapour density
Relative gas/vapour density : No data known.

Relative Density
Relative Density : 1,03 (25 °C) (Water / 4 °C = 1,00)
(DIN 51757)
Density : 1,03 g/cm³ (25 °C) (DIN 51757)

Partition coefficient: n-octanol/water
Partition coefficient: n-octanol/water : No data known.

Auto-ignition temperature
Ignition temperature : ca. 300 °C (DIN 51794)

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Viscosity
Viscosity (kinematic : 14 mm^2/s at 25 °C (DIN 51562) Molecular mass
Molecular mass : not applicable

9.2 Other information

Solubility in water: Hydrolytic decomposition occurs. Explosion limits for released methanol: 5.5 - 44%(V). pH Value: Product displays neutral reaction.

SECTION 10: STABILITY AND REACTIVITY

Reactivity; Chemical Stability; Possibility of Hazardous Reactions

No hazardous reactions are known when the product is stored and handled in accordance with standard industrial practices. Additional relevant information may be provided elsewhere in this section.

Conditions to Avoid

Avoid exposure to moisture, heat, open flames, and other sources of ignition.

Incompatible Materials

Reacts with water, alkaline substances, and acids. Such reactions may result in the formation of methanol.

Hazardous Decomposition Products

Hydrolysis may generate methanol. Testing has shown that small amounts of formaldehyde can form at temperatures above approximately 150 °C (302 °F) due to oxidation.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Acute toxicity

Assessment:
For similar products, no indications for a specific hazard due to aerosol inhalation were identified in animal tests. However, inhalation of respirable aerosol should be avoided.

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Route of exposure Result/Effect		Species/Test system	Source
by inhalation (spray)	LC50: > 240 ml/h; 4 h No mortality at room temperature in highly enriched or saturated atmosphere.	Rat	Conclusion by analogy

Acute toxicity estimate (ATE)

ATEmix(Oral): > 2000 mg/kg
ATEmix(dermal): > 2000 mg/kg

Skin corrosion/irritation
Assessment:
For this endpoint, no toxicological test data is available for the whole product.

Serious eye damage/eye irritation
Assessment:
For this endpoint, no toxicological test data is available for the whole product.

Respiratory or skin sensitisation
Assessment:
For this endpoint, no toxicological test data is available for the whole product.

Germ Cell Mutagenicity
Assessment:
No toxicological test data are available for the product as a whole for this endpoint.

Carcinogenicity
Assessment:
No toxicological test data are available for the product as a whole for this endpoint.

Reproductive Toxicity
Assessment:
No toxicological test data are available for the product as a whole for this endpoint.

Specific Target Organ Toxicity (Single Exposure)
Assessment:
No toxicological test data are available for the product as a whole for this endpoint.

Specific Target Organ Toxicity (Repeated Exposure)
Assessment:
No toxicological test data are available for the product as a whole for this endpoint.

Aspiration Hazard
Assessment:
No toxicological test data are available for the product as a whole for this endpoint.

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11.2 Additional Toxicological Information

Hydrolysis product or impurity: Methanol (CAS 67-56-1) is readily and rapidly absorbed through all routes of exposure and is toxic by all routes. Methanol may cause mucosal irritation, nausea, vomiting, headache, dizziness, and visual disturbances, including blindness due to irreversible optic nerve damage. It may also result in acidosis, convulsions, narcosis, and coma. The onset of these effects may be delayed following exposure.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity
Assessment:
No harmful effects on aquatic organisms are anticipated. Based on current knowledge, adverse impacts on wastewater treatment plants are not expected.

Persistence and Degradability
Assessment:
Contact with water releases methanol, silanol, and/or siloxanol compounds. The silicone component is not biologically degradable and is removed primarily through adsorption to activated sludge. The hydrolysis product, methanol, is readily biodegradable.

Bioaccumulative Potential
Assessment:
Bioaccumulation is not expected.

Mobility in Soil
Assessment:
The silicone component is absorbed onto suspended particles and can be separated through sedimentation.

Results of PBT and vPvB Assessment
No data available.

Other Adverse Effects
None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Material
Recommendation:
Material that cannot be reused, reprocessed, or recycled must be disposed of in accordance with applicable federal, state, and local regulations at an authorised facility. Depending on regulatory requirements, appropriate disposal methods may include landfill or incineration.

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Uncleaned Packaging
Recommendation:
Containers should be completely emptied, ensuring no residual liquid or solid remains. Once properly cleaned, containers may be recycled or reused in compliance with local, state, and federal regulations. Uncleaned packaging must be handled with the same precautions as the product itself.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number; UN proper shipping name; Transport hazard class(es); Packing group

Not regulated for transport by road, rail, sea or air (see below).

Road ADR:
Valuation : Not regulated for transport

Railway RID:
Valuation : Not regulated for transport

Transport by sea IMDG-Code:
Valuation : Not regulated for transport

Air transport ICAO-TI/IATA-DGR:
Valuation : Not regulated for transport

14.2 Environmental hazards

Hazardous to the environment: no

14.3 Special precautions for user

Road transport: Not regulated in Class 3 - ADR/RID 2.2.3.1.1 NOTE 1 - Substance does not sustain combustion! Rail transport: Not regulated in Class 3 - ADR/RID 2.2.3.1.1 NOTE 1 - Substance does not sustain combustion!
Ship transport: Not regulated in Class 3 - IMDG 2.3.1.3 -
as the substance does not sustain combustion!
Air transport: Not regulated in Class 3 - IATA 3.3.1.3 / ICAO 3.1.3 - Substance does not sustain combustion! Due to safety reasons no air transport in totes (IBC) or vented packaging!
Relevant information in other sections has to be considered.

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14.4 Transport in bulk according to Annex II of MARPOL and the IBC Code

Bulk transport in tankers is not intended.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National and local regulations must be observed.
For information on labeling please refer to section 3 of this document.

SECTION 16: MISCELLANEOUS INFORMATION

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