FLAG STONE FIX
STONE CARE EXPERTS

ZYAX GROUP

Material Safety Data Sheet(MSDS)

MODIFIER PLUS

SECTION 1: IDENTIFICATION

1.1 GHS Product Identifier

Product name MODIFIER PLUS

1.2 Other means of Identification

No further relevant information available.

1.3 Recommended use of the chemical and restrictions on use

Protective impregnation

1.4 Supplier's details

Name	ZYAX Chem Pvt. Ltd.
Address	Third Floor, Kamer Building, 38, Cawasji Patel Street, Fort, Mumbai, Maharashtra, 400001, India.
Contact	+91 87792 40420
Email	info@zyax.in
Website	www.zyax.in

SECTION 2: HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2 H319 Causes serious eye irritation.

H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H304	May be fatal if swallowed and enters airways.
H412	Harmful to aquatic life with long lasting effects.

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2.2 GHS label elements, including precautionary statements

Pictograms	Danger
Hazard statement(s)	
H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H304	May be fatal if swallowed and enters airways.
H412	Harmful to aquatic life with long lasting effects.
Precautionary statement(s)	
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing vapours.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331	Do NOT induce vomiting.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor if you feel unwell.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/ regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment	
PBT:	Not applicable.
vPvB:	Not applicable.
Determination of endocrine disrupting properties	For information on endocrine disrupting properties see section 11.

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

consisting of the following components.

Hazardous components

1. Hydrocarbons

Concentration	25-50% (weight)
EC no.	927-241-2
Reg no.	01-2119471843-32

2. Kohlenwasserstoffe

Concentration	<10% (weight)
EC no.	932-020-9
Reg no.	01-2119548395-31

3. tetra-n-butoxytitanium

Concentration	1-5% (weight)
CAS No.	5593-70-4
EINECS	227-006-8
Reg no.	01-2119967423-33

3. methanol

Concentration	<1% (weight)
CAS No.	67-56-1
EINECS	200-659-6
Index No.	603-001-00-X
Reg no.	01-2119433307-44

Additional information: For the wording of the listed hazard phrases refer to section 16.

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SECTION 4: FIRST-AID MEASURES

4.1 Description of necessary first-aid measures

General information	Take affected persons out of danger area and lay down. Immediately remove any clothing soiled by the product.
If inhaled	Supply fresh air; consult doctor in case of complaints. In case of unconsciousness place patient stably in side position for transportation.
In case of skin contact	Immediately rinse with water. If skin irritation continues, consult a doctor.
In case of eye contact	Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
If swallowed	Rinse out mouth and then drink plenty of water. If symptoms persist consult doctor.

4.2 Most important symptoms

No further relevant information available.

4.3 Indication of any immediate

No further relevant information available.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media

Suitable extinguishing agents:
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents:
Water with full jet

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released: Carbon monoxide (CO)

5.3 Advice for firefighters

Protective equipment:
Mount respiratory protective device. Wear fully protective suit.

Additional information
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.
Keep away from ignition sources.

6.2 Environmental precautions

Do not allow product to reach sewage system or any water course.
Prevent seepage into sewage system, workpits and cellars.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for

Dispose contaminated material as waste according to section 13.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep receptacles tightly sealed. Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air). Ensure good ventilation/exhaustion at the workplace.

Information about fire - and explosion protection:
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities

Storage: Requirements to be met by storerooms and receptacles:
Store in a cool location.

Information about storage in one common storage facility:
Store away from foodstuffs.

Further information about storage conditions:
Protect from frost.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.

Storage class:
3

7.3 Specific end use(s)

No further relevant information available

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace

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67-56-1 methanol
IOELV Long-term value: 260 mg/m³, 200 ppm
Skin

DNELs

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cycloalkanes, <2% aromatics
Oral: DNEL (Langzeit-wiederholt) 125 mg/kg bw/day (BEV)
Dermal: DNEL (Langzeit-wiederholt) 208 mg/kg bw/day (ARB)
125 mg/kg bw/day (BEV)
Inhalative: DNEL (Langzeit-wiederholt) 871 mg/m³ Air (ARB)
185 mg/m³ Air (BEV)

Kohlenwasserstoffe, C8-C9, Isoalkane
Oral: DNEL (Langzeit-wiederholt) 699 mg/kg bw/day (BEV)
Dermal: DNEL (Langzeit-wiederholt) 773 mg/kg bw/day (ARB)
699 mg/kg bw/day (BEV)
Inhalative: DNEL (Langzeit-wiederholt) 2,035 mg/m³ Air (ARB)
608 mg/m³ Air (BEV)

5593-70-4 tetra-n-butoxytitanium
Oral: DNEL (Langzeit-wiederholt) 3.75 mg/kg bw/day (BEV)
Dermal: DNEL (Langzeit-wiederholt) 37.5 mg/kg bw/day (BEV)
Inhalative: DNEL (Langzeit-wiederholt) 500 mg/m³ Air (ARB)
38 mg/m³ Air (BEV)

67-56-1 methanol
Oral: DNEL (Kurzzeit-akut)
4 mg/kg bw/day (BEV)
DNEL (Langzeit-wiederholt) 4 mg/kg bw/day (BEV)
Dermal: DNEL (Kurzzeit-akut)
20 mg/kg bw/day (ARB)
4 mg/kg bw/day (BEV)
DNEL (Langzeit-wiederholt) 20 mg/kg bw/day (ARB)
4 mg/kg bw/day (BEV)
Inhalative: DNEL (Kurzzeit-akut)
130 mg/m³ Air (ARB)
26 mg/m³ Air (BEV)
DNEL (Langzeit-wiederholt) 130 mg/m³ Air (ARB)
26 mg/m³ Air (BEV)

67-56-1 methanol
Oral DNEL (Kurzzeit-akut)
4 mg/kg bw/day (BEV)
DNEL (Langzeit-wiederholt) 4 mg/kg bw/day (BEV)
Dermal DNEL (Kurzzeit-akut)
20 mg/kg bw/day (ARB)
4 mg/kg bw/day (BEV)
DNEL (Langzeit-wiederholt) 20 mg/kg bw/day (ARB)
4 mg/kg bw/day (BEV)

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Inhalative DNEL (Kurzzeit-akut)
130 mg/m³ Air (ARB)
26 mg/m³ Air (BEV)
DNEL (Langzeit-wiederholt) 130 mg/m³ Air (ARB)
26 mg/m³ Air (BEV)

PNECs

5593-70-4 tetra-n-butoxytitanium
PNEC (wässrig) 105 mg/l (KA)
0.059 mg/l (MW)
0.59 mg/l (SW)
2.25 mg/l (WAS)
PNEC (fest)
0.017 mg/kg Trockengew (BO)
0.048 mg/kg Trockengew (MWS)
0.482 mg/kg Trockengew (SWS)

67-56-1 methanol
PNEC (wässrig) 100 mg/l (KA)
2.08 mg/l (MW)
20.8 mg/l (SW)
1,540 mg/l (WAS)
PNEC (fest)
100 mg/kg Trockengew (BO)
7.7 mg/kg Trockengew (MWS)
77 mg/kg Trockengew (SWS)

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Appropriate engineering controls	No further data; see section 7.
Individual protection measures, such as personal protective equipment	
General protective and hygienic measures:	Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing Wash hands before breaks and at the end of work. Do not inhale gases / fumes / aerosols. Avoid contact with the eyes and skin.

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Respiratory protection	Short term filter device: Filter A/P2 In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Hand protection	Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g. the above listed protection glove type. The mentioned permeation times´ data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory anylyses of the company KCL GmbH in compliance with EN374. This recommendation refers exclusively to the material safety data sheet referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: http://www.kcl.de).
Material of gloves	The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Penetration time of glove material	The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
For the permanent contact gloves made of the following materials are suitable	Butyl rubber, BR
As protection from splashes gloves made of the following materials are suitable	Butoject (KCL, Art_No. 897, 898) Butyl rubber, BR
Not suitable are gloves made of the following materials	Strong material gloves Synthetic rubber gloves
Eye/face protection	Tightly sealed goggles
Body protection	Solvent resistant protective clothing

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES AND SAFETY CHARACTERISTICS

9.1 Information on basic physical and chemical properties

General Information	Colourless
Color	Specific type
Odor	Not determined.
Odor threshold	Undetermined.
Melting point/freezing point	110-190 °C
Boiling point or initial boiling point and boiling range	Not applicable.
Flammability	
Lower and upper explosion limit/flammability limit	2.1-11.5 %
Flash point	27 °C
Auto-ignition temperature	460 °C
Decomposition temperature	Not determined.
pH	Not determined.
Viscosity	
Kinematic viscosity	Not determined.
Dynamic	Not determined.
Solubility	
water	Not miscible or difficult to mix.
Partition coefficient n-octanol/water (log value)	Not determined.
Vapour pressure	Not determined.
Density and/or relative density	
Density at 20 °C	0.89 g/cm³
Relative density	Not determined.
Vapour density	Not determined.

9.2 Other information

Appearance:	
Form:	Fluid
Important information on protection of health and environment, and on safety.	
Ignition temperature:	Product is not selfigniting.
Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
Solvent content:	
Organic solvents:	39.9 %
Change in condition	
Evaporation rate	Not determined.
Information with regard to physical hazard classes	
Explosives	Void
Flammable gases	Void
Aerosols	Void
Oxidising gases	Void
Gases under pressure	Void

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SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity
Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification

ATE (Acute Toxicity Estimates)
Oral LD50
Dermal LD50
18,797 mg/kg (rat)
56,391 mg/kg

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cycloalkanes, <2% aromatics
Oral LD50
Dermal LD50
5,000 mg/kg (rat) (OECD 401)
>5,000 mg/kg (rabbit) (OECD 402)
Inhalative LC50/4 h 4,951 mg/l (rat) (OECD 403)

Kohlenwasserstoffe, C8-C9, Isoalkane
Oral LD50
Dermal LD50
>7,100 mg/kg (rat)
>2,200 mg/kg (rabbit)

5593-70-4 tetra-n-butoxytitanium
Oral LD50
Dermal LD50
3,122 mg/kg (rat)
5,300 mg/kg (rabbit)
Inhalative LC50/4 h 11 mg/l (rat)

67-56-1 methanol
Oral LD50
Dermal LD50
100 mg/kg (rat)
15,800 mg/kg (rabbit)
300 mg/kg (rat)
Inhalative LC50/4 h 128.2 mg/l (rat)

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Skin corrosion/irritation
Based on available data, the classification criteria are not met.

Serious eye damage/irritation
Causes serious eye irritation.

Respiratory or skin sensitisation
Based on available data, the classification criteria are not met.

Germ cell mutagenicity
Based on available data, the classification criteria are not met.

Carcinogenicity
Based on available data, the classification criteria are not met.

Reproductive toxicity
Based on available data, the classification criteria are not met.

STOT-single exposure
May cause drowsiness or dizziness.

STOT-repeated exposure
Based on available data, the classification criteria are not met.

Aspiration hazard
May be fatal if swallowed and enters airways.

11.2 Information on other hazards

Endocrine disrupting properties. None of the ingredients is listed.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic toxicity:

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cycloalkanes, <2% aromatics
EL50/48h
>22-<46 mg/l (daphnia magna)
EL50/72h
>1,000 mg/l (Pseudokirchneriella subcapitata)
LL50/96h
>10-<30 mg/l (Oncorhynchus mykiss)
NOELR/72h <1 mg/l (Pseudokirchneriella subcapitata)
NOEC/21d 0.317 mg/l (daphnia magna)
NOELR/28d 0.182 mg/l (Oncorhynchus mykiss)

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Kohlenwasserstoffe, C8-C9, Isoalkane
EC50/48h 2.4 mg/l (daphnia magna)
NOELR/72h 6.3 mg/l (Pseudokirchneriella subcapitata)
NOEC/21d 1 mg/l (daphnia magna)
NOELR/28d 0.46 mg/l (Oncorhynchus mykiss)
EC50/72h 10 mg/l (Pseudokirchneriella subcapitata)
LC50/96h 18.4 mg/l (Oncorhynchus mykiss)

5593-70-4 tetra-n-butoxytitanium
EC50/96h 225 mg/l (algae)
EC50/48h 1,300 mg/l (daphnia magna)
NOEC/21d 4 mg/l (daphnia magna)
EC10
134 mg/l (algae)
650 mg/l (bacteria)
EC50/72h 225 mg/l (algae)
LC50/96h 1,740-2,300 mg/l (piscis)

67-56-1 methanol
EC50/96h 22,000 mg/l (Pseudokirchneriella subcapitata)
IC50
>1,000 mg/l (BES)
EC50/48h >10,000 mg/l (daphnia magna)
LC50/96h 13,500-17,600 mg/l (lem)
19,500-20,700 mg/l (Oncorhynchus mykiss)
28,200 mg/l (pimephales promelas)

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

12.5 Results of PBT and vPvB assessment properties

PBT: Not applicable.
vPvB: Not applicable.

12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects

Additional ecological information:
General notes: Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous

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SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Recommendation	Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Uncleaned packaging:	
Recommendation:	Disposal must be made according to official regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number or ID number

ADR, IMDG, IATA	UN1993

14.2 UN proper shipping name

ADR	1993 FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9-C10, n alkanes, isoalkanes, cycloalkanes, <2% aromatics, METHANOL)
IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9-C10, n alkanes, isoalkanes, cycloalkanes, <2% aromatics, METHANOL)

14.3 Transport hazard class(es)

ADR

Class	3 (F1) Flammable liquids.
Label	3

IMDG, IATA

Class	3 Flammable liquids.
Label	3

14.4 Packing group

ADR, IMDG, IATA	III

14.5 Environmental hazards

Marine pollutant:	No

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14.6 Special precautions for user

Hazard identification number (Kemler code)	30
EMS Number	EMS Number: F-E,S-E
Stowage Category	Stowage Category A

14.7 Maritime transport in bulk according to IMO instruments

Transport/Additional information

ADR

Limited quantities (LQ)	5L
Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
Transport category	3
Tunnel restriction code	D/E

IMDG

Limited quantities (LQ)	5L
Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

UN "Model Regulation" UN 1993 FLAMMABLE LIQUID, N.O.S. (HYDROCARBONS, C9-C10, N-ALKANES, ISOALKANES, CYCLOALKANES, <2% AROMATICS, METHANOL), 3, III

SECTION 15: REGULATORY INFORMATION

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

· Directive 2012/18/EU	
· Named dangerous substances ANNEX I	None of the ingredients is listed.
· Seveso category	P5c FLAMMABLE LIQUIDS
· Qualifying quantity (tonnes) for the application of lower-tier requirements	5,000 t
· Qualifying quantity (tonnes) for the application of upper-tier requirements	50,000 t
· REGULATION (EC) No 1907/2006 ANNEX XVII	Conditions of restriction: 3, 69

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DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II
None of the ingredients is listed.

· REGULATION (EU) 2019/1148

· Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))
None of the ingredients is listed.

· Annex II - REPORTABLE EXPLOSIVES PRECURSORS
None of the ingredients is listed.

· Regulation (EC) No 273/2004 on drug precursors
None of the ingredients is listed.

· Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors
None of the ingredients is listed.

· National regulations:

· Information about limitation of use: Employment restrictions concerning juveniles must be observed.
· Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
· Substances of very high concern (SVHC) according to REACH, Article 57
None of the ingredients is listed.
· VOC EU 355.5 g/l

15.2 Chemical safety assessment: products:

A Chemical Safety Assessment has not been carried out.

SECTION 16: OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Contact:
Email:
Date of issue:

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Flammable liquids	Flammable liquid and vapour.
Flammable solids	Void
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	Void
Desensitised explosives	Void

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No further relevant information available.

10.2 Chemical stability

No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions

No dangerous reactions known.

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous decomposition

No dangerous decomposition products known.