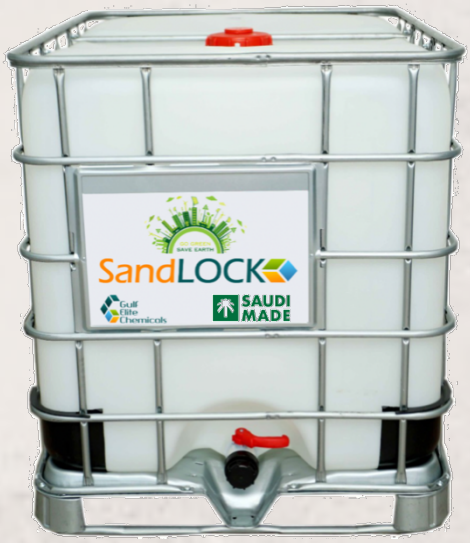
2022

SandLOCK

Premium quality, Erosion control polymer

SAUDI MADE



Gulf Elite Chemicals

SandLOCK

INTRODUCTION:

- SandLOCK is a high-performance styrene acrylic copolymer emulsion.

TYPICAL PROPERTIES:

Appearance.	:	Bluish White Emulsion.
Solid Content.	:	Maximum 50%
Viscosity. (Brookfield RVT, spindle # 3/20 rpm @25°C)	:	15- 40 Poise.
pH.	:	7.5 – 9.5
Specific Gravity.	:	1.06 ±0.01
Particle Size.	:	0.1 - 0.15 µ
MFFT	:	11 ±1 °C
Film Properties.	:	Clear & Glossy.

FEATURES:

- Highly waterproof composite.
- Good breathability.
- Does not degrade under continuous UV exposure ensuring durability
- Gives a weather-resistant crust with improved durability.
- Compatible with all kinds of soils.

MAIN APPLICATION:

- SandLOCK is a universal binder widely used for road shoulders & embarkment Erosion Control

Mixing design:

SR	SERVICE	MIXING RATIO CONCENTRATED POLYMER: WATER	COVERAGE RATIO CONCENTRATED POLYMER / SQM
1	Dust Control	1: 14	0.33 Liter / SQM
2	Sand dune stabilization	1: 9	0.5 Liter / SQM
3	Pipeline sand berm capping	1: 9	0.5 Liter / SQM
4	• Road shoulders & embarkments • Right Of Way stabilization	1: 7	1.0 Liter / SQM

- Site condition decides the final mixing ratio as per soil type and compaction level

HANDLING AND SAFETY:

- SandLOCK is water-based and non-toxic under normal use conditions.

STORAGE CONDITIONS:

- SandLOCK should be stored under shade for a maximum of up to 6 months and should not be subjected to direct sunlight for a long time and temperatures must be kept within a range of 5 –40 C° is recommended as high temperatures may affect the quality and cause the formation of skins, especially if the packing has not been tightly closed.

PACKAGING:

- 1 cubic meter IBC

Shelf Life:

- 12 months from the date of manufacturing when kept in cool, dry, unopened, and undamaged original packing condition.

Health & Safety:

- Skin Contact:
  - Wash skin with soap & water.
  - Remove contaminated clothes.
- On eye contact:
  - Immediately splash eyes with plenty of water.
  - Consult Physician if irritation persists.
- Ingestion:
  - Do not induce vomiting.
  - Never give anything by mouth to an unconscious person.
  - Call a Physician.

SandLOCK

Gulf Elite Chemicals

METHOD OF STATEMENT FOR SAND & SOIL STABILIZATION USING SandLOCK POLYMER

METHOD OF STATEMENT FOR SAND & SOIL STABILIZATION USING CHEMICAL POLYMER:

1- PURPOSE

This method of statement describes how to stabilize sand & soil using the chemical polymer SandLOCK® for the peruse of

1. Dust control
2. Sand dunes, pipeline berm capping
3. Side slopes of the pad and embarkment slopes

2- SCOPE

Provide a detailed description for using chemical polymer on sand and embarkment slopes instead of compacted marl alone.

3- JUSTIFICATION

a. The traditional way of stabilization by crude oil is prohibited now
b. Marl maintenance is not ideal due to time-consuming, high cost, and less durability
c. Sand dunes, pipeline berm capping, and embarkment stabilization by SandLOCK® chemical polymer provide the ideal solution by both advantages, less cost, and less time consuming
d. SandLOCK® chemical polymer is an Environmental-friendly product.

4- REFERENCES

- SAES-A-114, April 2019
- SAES-L-450
- SATIP-L-450

5- ADVANTAGE

a. Less time-consuming in related to marl maintenance.
b. Less cost related to marl maintenance.
c. More effective for erosion control especially against wind and rain.
d. Environmentally friendly product.

6- METHODS

SandLOCK® is a unique environment-friendly product designed specifically for erosion control and dust control. SandLOCK® can be classified as an eco-friendly product

a. Slopes of Sand dunes, pipeline berm capping, and embarkment sprayed from both sides by a diluted SandLOCK® polymer.

b. After spraying SandLOCK® polymer, it creates a hard and durable crust. The crust can protect the slopes of Sand dunes, pipeline berm capping, and embarkment from rain and wind.
c. The surface must be leveled and stable before application.
d. Before stabilizing slopes of Sand dunes, pipeline berm capping, and embarkment, the slope must be built and inspected before the application to ensure the slope has taken its final shape.

7- NECESSARY PRECAUTIONS BEFORE DILUTION:

A. Manufacturing Dates
B. MSDS
C. Proper storage as per Shortcut Company standard.
D. Dilution water should be sweet water.
E. Quantity of dilution as per Shortcut Company standard of application.
F. When you received concentrated Shortcut Company material at the site in the shape of a tanker or IBC we must make sure our concentrated material manufacturing date.
G. If it is more than 10 days before the dilution you must circulate or mix it until it will come to a uniform shape.
H. basically, the uniform shape indicates by recognizing the bottom and top of IBC material have the same viscosity. And also, the surface of the IBC or tanker shows much foam.
   - Note: That statement is only applicable when the material is stored for more than 10 days at the site, otherwise, we can directly start dilution with sweet water.

8- EQUIPMENT

A. Mixing Spraying Tank.

- Tank/container/ water tanker should be used to mix and spray the diluted SandLOCK®.

B. Pump.

- The pump may be used to transfer SandLOCK® to the spraying tank/container, if applicable.
- Delivery volume 580 L/min or more.
- The inlet/outlet must match the diameter of the hose.
- An operator should be assigned to the pump along with the mechanic.
- Could be found at Fire & Safety shops.

C. Spray Gun.

- Multipurpose combination flow nozzle.
- 1.5" spray nozzle.

- Could be found at Fire & Safety shops.

D. Hoses.

- Firewater hoses / Flexible Hoses.
- 1.5" / 2" hoses to match the Spray gun.

E. Other Equipment. (May Be Required).

- Concrete leveling bar to level the surface (when needed).
- Forklift: for loading/Unloading

9- APPLICATION CONDITIONS REQUIREMENT:

b. Dry conditions are to be ensured before starting the work and until work completes.
c. The area must be treated in dry conditions with no significant precipitation within a 72-hour drying window following application.
d. Wind speed not more than 15km/h during application.
e. The temperature should be above 16 C during application and 72 hours following application.
f. The site should NOT be used after spraying the product to allow curing.
g. The site should be inspected after two days after spraying.
h. Maintenance required,
   - Crust maintenance: Crust should be inspected after 12 months from application; any damaged areas should be re-sprayed only.
i. Storage ISO tank man lid must be open during discharge and must be closed after pumping. Failure to open the man lid during discharge will result in very expensive damage which will be the applicator's responsibility only.
j. Any skin formation due to leaving the man lid open is the applicator's responsibility only. When storing, keep the product from freezing and from direct sunlight. Avoid extended storage above 40 C.

IDEAL INSTALLATION METHOD

a. Concentrated SandLOCK® polymers will arrive at the site.
b. A forklift/pump should be used to transfer the concentrated SandLOCK® to the mixing/spraying container.
c. Footprints and edges must be leveled before application.
d. SandLOCK® to be mixed as bellow

SR	SERVICE	MIXING RATIO CONCENTRATED POLYMER: WATER	COVERAGE RATIO CONCENTRATED POLYMER / SQM
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• Site condition decides the final mixing ratio as per soil type and compaction level			

e. Spraying from the diluted SandLOCK® to the leveled surface.
f. Curing time varies with weather temperature. It is two days minimum duration for curing.

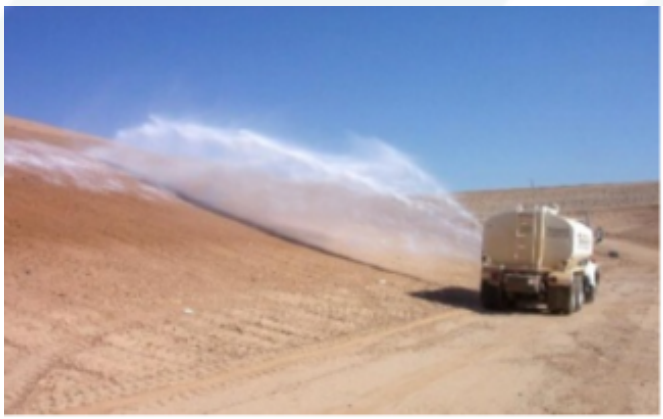
10- POLYMER PROPERTIES

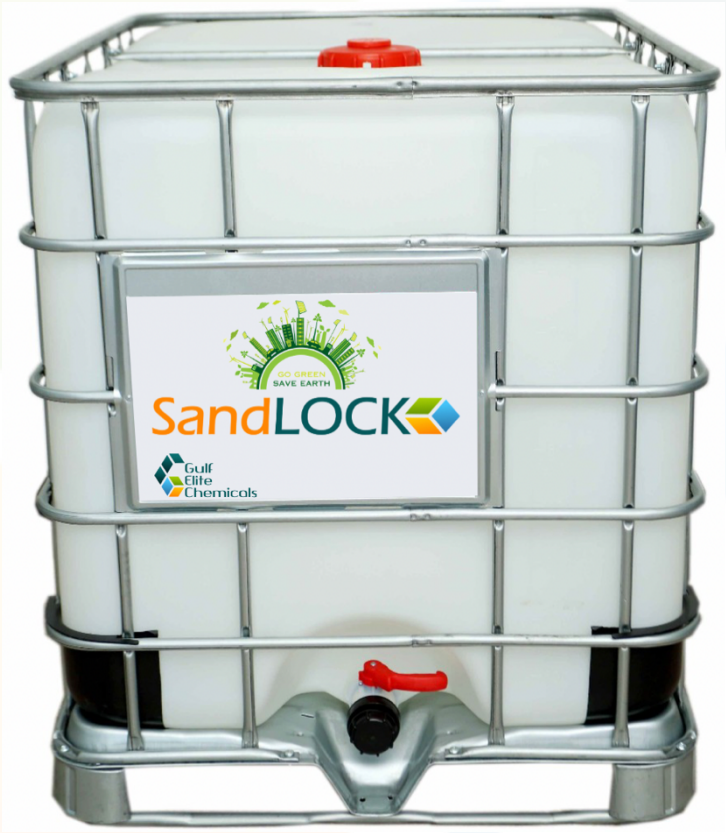
a. Environmentally safe to plant and animal life
b. Non- toxic
c. Non-flammable
d. Water base
e. Non- Corrosive
f. Non- toxic
g. Unregulated for transport

11- INSPECTION

a. Slope stabilization work shall be inspected as per the requirement of the project owner.
b. Civil QC inspector will conduct the inspection and verify the work as acceptance criteria mentioned in the checklist after verification and satisfaction of the main contractor civil QC, RFI shall be raised for inspection.

C.



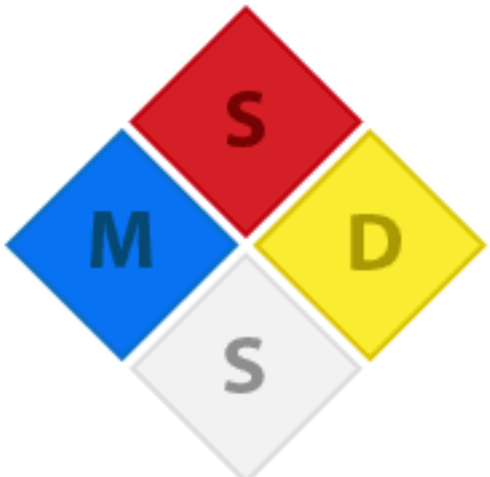
Gulf Elite Chemicals

SandLOCK

MSDS

MATERIAL SAFETY

DATASHEET



MATERIAL SAFETY DATASHEET

MSDS Date
01/01/2022

1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY: GULF ELITE CHEMICALS COMPANY

- SandLOCK is a registered trademark of GULF ELITE CHEMICALS COMPANY

2- COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS REG NO.	WEIGHT (%)
Acrylic copolymer	Not Hazardous	39-43
Individual residual monomers	Not Required	<0.1
Water	7732-18-5	57-61

3- HAZARDS IDENTIFICATION

Primary Routes of Exposure: Inhalation, Eye Contact and Skin Contact

- **Inhalation**: Inhalation of vapor or mist can cause the following: headache, nausea, irritation of the nose, throat, and lungs
- **Eye Contact**: Direct contact with material can cause the following: -slight irritation
- **Skin Contact**: Prolonged or repeated skin contact can cause the following: -slight skin irritation

4- FIRST-AID MEASURES

- **Inhalation**: Move subject to fresh air.
- **Eye Contact** :
  - Flush eyes with water.
  - Consult a physician if irritation persists.
- **Skin Contact** :
  - Wash the affected skin area thoroughly with soap and water.
  - Consult a physician if irritation persists.
- **Ingestion**: If swallowed, give 2 glasses of water to drink.

- Consult a physician.
- Never give anything by mouth to an unconscious person.

5- FIRE FIGHTING MEASURES

- **Flash Point:** Non-combustible
- **Auto-ignition Temperature:** Not Applicable
- **Lower Explosive Limit:** Not Applicable
- **Upper Explosive Limit:** Not Applicable
- **Unusual Hazards:** Material can splatter above 100C/212F. The dried product can burn.
- **Extinguishing Agents:** Use extinguishing media appropriate for the surrounding fire.
- **Personal Protective Equipment**: Wear self-contained berating apparatus (pressure-demand NIOSH approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

- Personal Protection: Appropriate protective equipment must be worn when handling a spill of this material.

See SECTION 8, Exposure Controls/Personal Protection, for recommendations.

- If exposed to the material during clean-up operations, see SECTION 4, First Aid Measures, for actions to Follow Procedures
- Keep spectators away.
- The floor may be slippery; use care to avoid falling.
- Contain spills immediately with inert materials (sand, earth).
- Transfer liquids and solid diking material to separate suitable containers for recovery or disposal.
- CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

7. HANDLING AND STORAGE

Storage Conditions:

- Keep from freezing; material may coagulate.
- The minimum recommended storage temperature for this material is 1C°/34F.
- The maximum recommended storage temperature for this material is 49C/120F.

Handling Procedures:

- Monomer vapors can be evolved when the material is heated during processing operations. See SECTION 8,

- Exposure Controls/Personal Protection, for types of ventilation required.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Respiratory Protection:
  - A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions
  - warrant a respirator's use: None is required if airborne concentrations are maintained below the exposure limit listed in 'Exposure Limit Information'. For airborne concentrations up to 10 times the exposure limit, wear a properly fitted NIOSH-approved (or equivalent) half-mask, air-purifying respirator.
  - Air-purifying respirators should be equipped with NIOSH-approved (or equivalent) ammonia/methylamine cartridges and N95 filters.
  - If oil mist is present, use R95 or P95 filters.
- Eye Protection:
  - Use safety glasses with side shields (ANSI Z87.1 or approved equivalent).
  - Eye protection worn must be compatible with the respiratory protection system employed.
  - Other Protective Equipment: Facilities storing or utilizing this material should be equipped with an eyewash facility
- Hand Protection:
  - The Neoprene glove may provide protection against permeation.
  - Gloves of other chemically resistant materials may not provide adequate protection
- Engineering Controls (Ventilation):
  - Use Local exhaust ventilation with a minimum capture velocity of 100 ft/min. (0.5 m/sec.) at the point of vapor evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for Information on the design, installation, use, and maintenance of exhaust systems.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance: Milky
- Color: White
- State: Liquid
- Odor: Characteristic Ammonia odor
- PH: 5.0 to 9.5

- Viscosity: 1500 CPS Maximum
- Specific Gravity: (Water = 1) : 1.0 to 1.2
- Vapor Density (Air = 1): <1 Water
- Vapor Pressure: 17 mm Hg @ 20°C/68°F Water
- Melting Point: 0°C/32°F Water
- Boiling Point: 100°C/212°F Water
- Solubility in Water: Dilatable
- Percent Volatility: 57 to 61% Water
- Evaporation Rate (Bac = 1) :<1 Water

The physical and chemical data given in Section 9 are typical values for this product and are not intended to be product specifications

10. STABILITY AND REACTIVITY

- Instability:
  - This material is considered stable. However, avoid temperatures above 177C/350F, the onset of polymer decomposition.
  - Thermal decomposition is dependent on time and temperature.
- Hazardous Decomposition Products:
  - Thermal decomposition may yield acrylic monomers.
- Hazardous Polymerization:
  - The product will not undergo polymerization.
- Incompatibility:
  - There are no known materials that are incompatible with this product.

11. TOXICOLOGICAL INFORMATION

- Acute Data: No Toxicity data are available for this material.
  - The information shown in SECTION 3, Hazards Identification, is based on the toxicity profiles for several acrylic emulsions that are compositionally similar to this product.

Typical data are:

Oral LD50	Rat	>5000 mg/kg
Dermal LD	Rabbit	>5000 mg/kg
Skin irritation	Rabbit	practically non-irrupting
Eye irritation	Rabbit	inconsequential irrational

12. ECOLOGICAL INFORMATION

Acute Toxicity to Fish	Acute Toxicity to Invertebrates	Acute Toxicity to Algae	Bioconcentration	Toxicity to sewage bacteria
N/DA	N/DA	N/DA	N/DA	N/DA
Chemical Fate Information				
Biodegradability		N/DA		
Chemical Oxygen Demand		N/DA		

13. DISPOSAL CONSIDERATIONS

Procedure: Coagulate the emulsion by the stepwise addition of ferric chloride and lime. Remove the clear supernatant and flush to a chemical sewer.
Landfill or incinerate remaining solids in accordance with local, state, and federal regulations.

14. TRANSPORT INFORMATION

US DOT Hazard Class: NONREGULATED

15. REGULATORY INFORMATION

- Workplace Classification This product is considered non-hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200).
- This product is not a 'controlled product' under the Canadian Workplace Hazardous Materials Information System (WHMIS).
- SARA TITLE 3: Section 311/312 Categorizations (40CFR 370) This product is not a hazardous chemical under 29CFR 1910.1200, and therefore is not covered by Title III of SARA
- SARA TITLE 3: Section 313 Information (40CRF 372) This product does not contain a chemical which is listed in Section 313 at or above de minimize concentrations.
- CERCLA Information (40CFR 302.4) Releases of this material to air, land, or water are not reportable to the National Response Centre under the Comprehensive Environmental Response, Compensation,

- Liability Act (CERCLA) or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304.
- Waste Classification When a decision is made to discard this material as supplied, it does not meet RCRA's characteristic definition of ignitability, corrosively, or reactivity, and is not listed in 40 CFR
- 261.33. The toxicity characteristic (TC), however, has not been evaluated by the Toxicity Characteristic Leaching Procedure (TCLP).
- The United States All components of this product are following the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
- Pennsylvania Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information on Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania
- Worker and Community Right-to-Know Act.

16. OTHER INFORMATION

- HMIS "HAZARDOUS MATERIALS IDENTIFICATION SYSTEM "Hazard Ratings HEALTH: 1
- FLAMMABILITY: 0
- REACTIVITY: 0
  - Scale:
    - 0 = Minimal
    - 1 = Slight
    - 2 = Moderate
    - 3 = Serious

ABBREVIATIONS

ACGIH:	American Conference of Governmental Industrial Hygienists
OSHA:	Occupational Safety and Health Administration
TLV:	Threshold Limit Value
PEL:	Permissible Exposure Limit
TWA:	Time Weighted Average
STEL:	Short-Term Exposure Limit
Bac:	Butyl acetate