MATERIAL SAFETY DATA SHEET

Trade Name: **PS-SCS20**

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Names:
PS-SCS20 or Sodium Co Silicate
Chemical Formula:
Na_4SiCO_6
Company Identification:
www.PARSulfite.ir
Add:Unit 7,4th Floor, No.10,15/1 Alley, Shahid Akbari St. , Sayed Jamaledin Asadabadi Ave, Tehran, 14337 - 53538 Iran
Tel:(+98-21) 88103542-3
Fax No: (+98-21) 88705158

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical and Common Name	CAS Registry Number	Wt. %
Water	**7732-18-5**	**5-16**
Sodium Carbonate	**۴۹۷-۱۹-۸**	**55-65**
Sodium silicate	**1344-09-8**	**۲۵-۳۵**

3. HAZARDS IDENTIFICATION

Emergency Overview: Causes mild eye irritation and slight skin irritation. Dust causes irritation to respiratory tract. Due to high pH of product, release in to surface water is harmful to aquatic life. Noncombustible. Reacts with acids and some organics.

Eye contact: Causes mild irritation to the eyes.

Skin contact: Causes slight irritation to the skin.

Inhalation: Dust is irritating to respiratory tract.

Ingestion: May cause irritation to mouth, esophagus, and stomach.

Chronic hazards: No known chronic hazards. Not listed by NTP, IARC or OSHA as a carcinogen.

Physical hazards: Sharp edges and points can easily cut skin

4. FIRST AID MEASURES

Eye: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: If swallowed, DO NOT induces vomiting. Get medical attention immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flammable limits: This material is noncombustible.

Extinguishing Media: This material is compatible with all extinguishing media.

Hazards to fire-fighters: See Section 3 for information on hazards when this material is present in the area of a fire.

Fire-fighting equipment: The following protective equipment for fire fighters is recommended when this material is present in the area of a fire: chemical goggles, body-covering protective clothing, chemical resistant gloves, and rubber boots.

6. ACCIDENTAL RELEASE MEASURES

Personal protection: Wear chemical goggles, body-covering protective clothing, chemical resistant gloves, and rubber boots, NIOSH-approved dust respirator where dust occurs. See section 8.

Environmental Hazards: Sinks and mixes with water. High pH of this material is harmful to aquatic life, see Section 12.

Small spill cleanup: Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust. Use appropriate Personal Protective Equipment (PPE). See section 8.

Large spill cleanup: Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material. Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust. Use appropriate Personal Protective Equipment (PPE). See section 8. In case of contact with water, prevent runoff from entering into storm sewers and ditches which lead to natural waterways. Neutralize contaminated area and flush with large quantities of water. Comply with applicable environmental regulations.

CERCLA RQ: There is no CERCLA Reportable Quantity for this material. If a spill goes off site, notification of state and local authorities is recommended.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing dust. Keep container closed. Promptly clean up spills.

Storage: Keep containers closed. Store polypropylene laminated big bag.
Separate from acids, reactive metals, and ammonium salts. Do not store in aluminum, fiberglass, copper, brass, zinc or galvanized containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Use with adequate ventilation. Keep containers closed. Safety shower and eyewash fountain should be within direct access.

Respiratory protection: Use a NIOSH-approved dust respirator where dust occurs. Observe OSHA regulations for respirator use (29 C.F.R. §1910.134)

Skin protection: Wear body-covering protective clothing and gloves.

Eye protection: Wear chemical goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid. (Solid powder.)
Color: White.
Odor: Odorless.
pH: Approximately 11.5
Bulk density: Approximately, 0.35 - 0.45 gr/ml
Solubility in water: Soluble in hot water.
Partially soluble in cold water.

10. STABILITY AND REACTIVITY

Stability: This material is stable under all conditions of use and storage. Conditions to avoid: None.

Materials to avoid: Generates heat when mixed with acid. May react with ammonium salt solutions resulting in evolution of ammonia gas. Flammable hydrogen gas may be produced on contact with Aluminum, tin, lead, and zinc. Hazardous decomposition

Special Remarks on Reactivity: Hygroscopic. Combines with water with evolution of heat. Incompatible with phosphorus pentoxide, lithium, fluorine, fluoride, ammonia + silver nitrate, 2, 4, 6-trinitrotoluene, ammonia, acids, sodium sulfide + water, hydrogen peroxide, red hot aluminum metal, sodium sulfide, zinc, calcium, hydroxide.

Sodium Carbonate is decomposed by acids with effervescence.
Reacts violently with F_2, Lithium, and 2, 4, 6-trinitrotoluene. Sodium begins to decompose at 400 C to evolve CO_2.

Special Remarks on Corrosivity: Hot concentrated solutions of sodium carbonate are mildly corrosive to steel.

products: Hydrogen, carbon dioxide

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals: WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.
Acute oral toxicity (LD50): 4090 mg/kg [Rat].

Acute toxicity of the dust (LC50): 1200 mg/m3 2 hours [Mouse].

Chronic Effects on Humans: May cause damage to the following organs: upper respiratory tract, skin, eyes.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of ingestion, of inhalation (lung irritant).

Special Remarks on Toxicity to Animals: LDL (Lowest Published Lethal Dose) [Man] - Route: Oral; **Dose:** 714 mg/kg

Special Remarks on Chronic Effects on Humans: May cause adverse reproductive effects based on animal test data

Special Remarks on other Toxic Effects on Humans
Acute Potential Health Effects:

Skin: Causes skin irritation with possible burns depending on the concentration, site (abraded or intact skin), and duration of exposure.

Eyes: Causes eye irritation and possible burns. Concentrated solutions may cause permanent corneal injury (permanent corneal opacity).

Ingestion: Sodium carbonate ingestion may cause irritation of the digestive tract resulting in nausea, vomiting, diarrhea, thirst, abdominal pain depending on concentration and amount ingested. May also affect the cardiovascular system.

Inhalation: Dust may cause respiratory tract and mucous membrane irritation with coughing and shortness of breath (dyspnea), pulmonary edema.

Chronic Potential Health Effects:
Chronic inhalation may result in decreased pulmonary function, nasal congestion, nosebleeds, perforation of the nasal. However, the effects of chronic exposure seem to be reversible if exposure is decreased. septum. Other effects of chronic exposure are skin (dermatitis and ulceration), and gastrointestinal complaints

12. ECOLOGICAL INFORMATION

Eco toxicity: The following data is reported for sodium silicates on a 100% solids basis:
A 96 hour median tolerance for fish (Gambusia affnis) of 2320 ppm; a 96 hour median tolerance for water fleas (Daphnia magna) of 247 ppm; a 96 hour median tolerance for snail eggs (Lymnea) of 632 ppm; and a 96 hour median tolerance for Amphipoda of 160 ppm.

Environmental Fate: This material is not persistent in aquatic systems, but its high pH when undiluted or unneutralized is acutely harmful to aquatic life. Diluted material rapidly depolymerizes to yield dissolved silica in a form that is indistinguishable from natural dissolved silica. It does not contribute to BOD. This material does not bioaccumulate except in species that use silica as a structural material such as diatoms and siliceous sponges.
Where abnormally low natural silica concentrations exist (less than 0.1 ppm), dissolved silica may be a limiting nutrient for diatoms and a few other aquatic algal species. However, the addition of excess dissolved silica over the limiting concentration will not stimulate the growth of diatom populations; their growth rate is independent of silica concentration once the limiting concentration is exceeded. Neither silica nor sodium wills appreciably bioconcentrate up the food chain.

Physical/Chemical: Sinks and mixes with water. Only water will evaporate from this material.

13. DISPOSAL CONSIDERATIONS

Classification: Disposed material is not a hazardous waste.

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental Control regulations.

14. TRANSPORT INFORMATION

DOT UN Status: This material is not regulated hazardous material for transportation.

15. REGULATORY INFORMATION

Federal and State Regulations: TSCA 8(b) inventory: Sodium carbonate and sodium silicate

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications
WHMIS (Canada): CLASS D-2B: Material causing other toxic effects (TOXIC).
DSCL (EEC): R36/37/38- Irritating to eyes, respiratory system and skin. S22- Do not breathes dust. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
HMIS (U.S.A.)
Health Hazard: 2
Fire Hazard: 0
Reactivity: 1

Personal Protection: E
National Fire Protection Association (U.S.A.):
Health: 2
Flammability: 0

Protective Equipment: Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

16. OTHER INFORMATION

Uses: in ceramic industry as deflocculent.