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MATERIAL SAFETY DATA SHEET
(SODIUM META SILICATE)
Prepared according to US & GHS requirements
(ISDS meeting OSHA GHS 29 CFR 1910.1200)

1. Chemical And Product And Company Information

Company Identification : Advatech Industries Pvt Ltd.
Survey No. 243, Village- Dhanali, Ta- Kadi,
Dist.- Mehsana – Gujarat. -382715.

Product Identifier : Sodium Meta Silicate
Product Use : Cleaner, detergents / soaps

2. Composition / Information on Ingredients

Component : Sodium Meta Silicate
Percentage : 57 - 60
CAS Number : 6834-92-0

Component : Water
Percentage : 43 - 40
CAS Number : 7732-18-5

3. Hazard Identification

Emergency Overview:

Major Health Hazards : Corrosive to respiratory tract, eyes, skin & digestive tract . May cause permanent eye damage. Harmfull if swallowed.

Physical Hazards : May be corrosive to metals.

Precautionary Statements : Keep only in original container. Wear protective gloves, protective clothing, eye, and face protection. Do not breathe dust. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

Inhalation : Inhalation of dusts may cause irritation of the upper respiratory tract with sore throat, coughing and shortness of breath. Upon contact with moist mucous membranes, sodium metasilicate is highly alkaline and may cause corrosive damage. May cause severe irritation of the respiratory tract with coughing, choking, pain and possibly burns of the mucous membranes. In some cases, pulmonary edema and/or pneumonia may develop, either immediately or more often within 72 hours. The symptoms may include tightness in the chest, dyspnea, frothy sputum, cyanosis, and dizziness. Physical findings may include moist rales, low blood pressure and high pulse pressure.

Skin Contact : Direct contact with wet material or by moist skin may cause severe irritation, pain, and possibly burns.

Eye Contact : Dust or mist may cause severe irritation, pain and corneal burns (possibly leading to blindness). The full extent of the injury may not be immediately apparent.

Ingestion : May cause immediate pain and severe burns of the esophagus and gastrointestinal tract with vomiting, nausea, and diarrhea. Edema of the epiglottis and shock may occur.

4. First Aid Measures

Inhalation : Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.

Skin Contact : Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.

Eye Contact : Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.

Ingestion : If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

5. Fire Fighting

Fire Hazard : Negligible fire hazard.

Fire Fighting : Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion byproducts. Stay upwind and keep out of low areas.

Sensitivity to Mechanical Impact : Not sensitive.

Sensitivity to Static Discharge : Not sensitive.

Flash point : Not flammable.

6. Accidental Release Measures

Occupational Release :

Shovel dry material into suitable container. Wear appropriate personal protective equipment recommended. Flush spill area with water, if appropriate. Liquid material may be removed with a vacuum truck. Wet material is slippery under foot. Keep out of water supplies and sewers. This material is alkaline and may raise the pH of surface waters with low buffering capacity. Releases should be reported, if required, to appropriate agencies.

7. Handling and Storage

Storage Conditions :

Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated. Keep separated from incompatible substances.

Handling Procedures :

Avoid creation of dust. Avoid breathing dust. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling.

8. Personal Protection and Exposure Controls

Recommended Exposure Limit : 3 mg/m3 ceiling (internal Occupation Exposure Limit based on data from analogous chemicals).

Engineering Controls : Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.

Personal Protective Equipment :

Eye Protection : Wear safety glasses with side-shields. If eye contact is likely, wear chemical resistant safety goggles. When wet mixing, wear splash resistant safety goggles with a face shield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin and Body Protection : Wear protective clothing to minimize skin contact. When potential for contact with wet material exists, wear similar chemical protective suit. When potential for contact with dry material exists, wear disposable coveralls suitable for dust exposure.

Hand Protection : Wear appropriate chemical resistant gloves.

Protective Material Types : Butyl rubber, Natural rubber.

Respiratory Protection : A NIOSH approved respirator with N95 (dust, fume, mist) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure.

9. Physical & Chemical Properties

Physical State : Solid

Appearance : Powder

Color : White

Odor : Odorless

Molecular Formula : $Na_2SiO_3.5H_2O$

Boiling Point/Range : Not applicable

Melting Point/Range : 162 F (72.2 C)

Vapor Pressure : Not applicable

Specific Gravity (water=1) : Not applicable

Bulk Density : 54 - 60 lbs/ft3 (loose)

Water Solubility : 28%

PH : 12.4 (1% aqueous solution)

Volatility : Not applicable

Flash point : Not flammable

10. Stability & Reactivity

Stable at normal temperatures and pressures. Prolonged contact with incompatible metals may produce flammable hydrogen gas.

11. Toxicology Information

Acute Data :
This material has not been tested for primary eye irritation potential.
However, on the basis of its high degree of alkalinity, it is regarded as corrosive to the eyes.
When this material was tested for skin corrosion/irritation potential according to OECD Guidelines Section 404, it produced dermal corrosion. The acute oral toxicity of this product has not been tested. When sodium silicates were tested on a 100% solids basis, their single dose acute oral LD50 in rats ranged from 1500 mg/kg to 3200 mg/kg. The acute oral lethality resulted from nonspecific causes.

Subchronic Data :
In a study of rats fed sodium silicate in drinking water for three months,
at 200, 600 and 1800 ppm, changes were reported in the blood chemistry of some animals, but no specific changes to the organs of the animals due to sodium silicate administration were observed in any of the dosage groups. Another study reported adverse effects to the kidneys of dogs fed. Sodium silicate in their diet at 2.4g/kg/day for 4 weeks, whereas rats fed the same dosage did not develop any treatment-related effects. Decreased numbers of births and survival to weaning was reported for rats fed sodium silicate in their drinking water at 600 and 1200 ppm.

Special Studies :
Sodium silicate was not mutagenic to the bacterium E. Coli when tested in a mutagenicity bioassay. There are no known reports of carcinogenicity of sodium silicates. Frequent ingestion over extended periods of time of gram quantities of silicates is associated with the formation kidney stones and other siliceous urinary calculi in humans.

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 yields 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 will appreciably bioconcentrate up the food chain.

13. Disposal Consideration

Classification:
Disposed dry/solid material is not classified as a RCRA Hazardous waste.
However, disposed water/wet solutions containing this material are classified as RCRA hazardous waste if they exhibit the corrosive characteristic (pH greater than or equal to12.5) as defined in EPA rules.

Disposal Method :
Dispose in accordance with federal, state and local regulations.

14. Transportation Information

DOT UN-No: UN3253
Shipping Name: Disodium trioxosilicate
Hazard Class: 8
Packing Group III

TDG UN-No: UN3253
Shipping Name: Disodium trioxosilicate
Hazard Class: 8
Packing Group III

IATA UN-No: UN3253
Shipping Name: Disodium trioxosilicate
Hazard Class: 8
Packing Group III

IMDG/IMO UN-No: UN3253
Shipping Name: Disodium trioxosilicate
Hazard Class: 8
Packing Group III

EMS Number: F-A, S-B

15. Regulatory Information

TSCA :
All ingredients of this material are listed on the TSCA inventory.

FDA :
The use of sodium metasilicate is authorized by FDA as a boiler water additive for the production of steam that will contact food pursuant to 21 CFR and as a GRAS substance pursuant to 21 CFR a for use in washing and lye peeling of fruits, vegetables, and nuts; as a denuding agent for tripe; a hog scald agent in removing hair; and as a corrosion preventative in canned and bottled water.

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16. Other Information

Note :

THE INFORMATION ON THIS SAFETY DATA SHEET IS BELIEVED TO BE ACCURATE AND IT IS THE BEST INFORMATION AVAILABLE .NO LIABILITY RESULTING FROM THE USE OR HANDLING OF THE PRODUCT TO WHICH THIS SAFETY DATA SHEET RELATES. USERS AND HANDLERS OF THIS PRODUCT SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION PROVIDED HEREIN FOR THEIR OWN PURPOSES.

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