

Material Safety Data Sheet

TYPE Z, GRADE 4A

*** Section 1 - Chemical Product and Company Identification ***

Chemical Name: Synthetic Sodium Aluminosilicate

Generic Formula: $n\text{Na}_2\text{O} \cdot n\text{Al}_2\text{O}_3 \cdot 2n\text{SiO}_2$

Product Use: Adsorbent.

Synonyms: Zeolite 4A

Manufacturer Information

Sphinx Adsorbents, Inc.

53 Progress Avenue

Springfield, MA 01104

Phone: 413-736-5020

Fax: 413-736-8257

Emergency # 1-800-424-9300 (CHEMTREC US)

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
1344-00-9	Sodium aluminosilicate	75-85
1327-43-1	Magnesium aluminosilicate clay	15-25

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Nuisance particulates.

Component Information/Information on Non-Hazardous Components

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

*** Section 3 - Hazards Identification ***

Emergency Overview

Caution! This beige powder or bead product is an adsorbent/dessicant. Ingestion, inhalation, or contact with eyes, skin, or mucous membranes may cause irritation or thermal burns. Addition of water generates considerable heat. Spills of product in bead form will be slippery and can cause falls if walked on.

Potential Health Effects: Eyes

Dust or powder may irritate or burn eye tissue.

Potential Health Effects: Skin

Contact may cause dryness or irritation. Prolonged contact may lead to dermatitis or sensitization.

Potential Health Effects: Ingestion

Ingestion may produce burns to the lips, mouth, upper airway, esophagus and possibly the digestive tract.

Potential Health Effects: Inhalation

Inhalation of this product may severely irritate the nose, throat, and respiratory tract. Chronic exposure to respirable dust may lead to delayed lung injury such as sensitization or fibrosis.

HMIS Ratings: Health: 1* Fire: 0 Physical Hazard: 1 Pers. Prot.: A (safety glasses)

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

*** Section 4 - First Aid Measures ***

First Aid: Eyes

Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

First Aid: Skin

Wash thoroughly with soap and water. If irritation develops or persists, get medical attention.

First Aid: Ingestion

If product is ingested, drink two or three glasses of water to dilute stomach contents. DO NOT induce vomiting. Call a physician immediately.

First Aid: Inhalation

Move person to fresh air. Get medical attention immediately if exposed person is having difficulty breathing.

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First Aid: Notes to Physician

This product is an adsorbent/desiccant that generates heat on contact with water. Contact with soft tissue or mucous membranes may cause thermal burns. The used product may have adsorbed hazardous materials. Identify adsorbed materials and treat symptomatically.

*** Section 5 - Fire Fighting Measures ***

Flash Point: Not flammable

Upper Flammable Limit (UFL): Not applicable

Auto Ignition: Not applicable

Rate of Burning: Not applicable

General Fire Hazards

Product is non-flammable. Considerable heat is evolved when product is exposed to moisture. Flush with sufficient water to dissipate heat.

Hazardous Combustion Products

Used product may release adsorbed flammable or otherwise hazardous substances upon exposure to heat or water. Product user must identify adsorbed substances and inform firefighters of potential hazards.

Extinguishing Media

Use extinguishing media suitable for the surrounding fire.

Fire Fighting Equipment/Instructions

Firefighters should wear full protective clothing including self-contained breathing apparatus.

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 1

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

*** Section 6 - Accidental Release Measures ***

Containment Procedures

Cleanup personnel should wear personal protective equipment to avoid skin, eye, or inhalation exposures. Place spilled product in appropriate container for disposal, minimizing the generation of airborne dust. Spills of product in bead form will be slippery and can cause falls if walked on.

Clean-Up Procedures

Sweep up or gather material and place in appropriate container for disposal. Wash spill area thoroughly with a large amount of water. Wear appropriate protective equipment during cleanup. Vacuum or wet cleanup methods are preferred. Avoid the generation of dusts during clean-up. Do not allow the spilled product to enter public drainage system or open water courses.

Evacuation Procedures

Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed.

Special Procedures

Product evolves heat on contact with moisture.

*** Section 7 - Handling and Storage ***

Handling Procedures

Do not inhale dusts generated from this product. Do not get in eyes. Avoid contact with skin. Wash thoroughly after handling product. Keep product away from moisture. Considerable heat is generated when product is mixed with water.

Storage Procedures

Store in a dry place. Open container slowly to avoid creating or raising dust. Product shelf life is unlimited if kept dry in an airtight container. To prevent loss of product effectiveness, ensure containers are tightly resealed after opening. Do not return used or unused product to original container.

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*** Section 8 - Exposure Controls / Personal Protection ***

A: Component Exposure Limits

Sodium aluminosilicate (1344-00-9)

ACGIH: 10 mg/m³ TWA (inhalable fraction); 3 mg/m³ TWA (respirable fraction) (related to Particulates (insoluble or poorly soluble) not otherwise specified (PNOS))

OSHA: 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction) (related to Particulates not otherwise regulated)

Engineering Controls

Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Wear safety glasses.

Personal Protective Equipment: Skin

Cotton gloves recommended. Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves.

Personal Protective Equipment: Respiratory

If airborne product concentrations exceed applicable exposure limits, wear a NIOSH/MSHA approved respirator.

Personal Protective Equipment: General

No additional information.

*** Section 9 - Physical & Chemical Properties ***

Appearance: Beige powder or bead
Physical State: solid/powder

Odor: Odorless
pH: Neutral when dry, 8 to 11 in 50g/L water @ 20°C

Vapor Pressure: Not applicable
Boiling Point: Not determined
Solubility (H₂O): Insoluble, but will adsorb moisture

Vapor Density: Not applicable
Melting Point: >2900°F (>1600°C)
Specific Gravity: 0.68 to 0.8

Softening Point: Does not soften below 1292°F (700°C)

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

Product is stable under normal temperature and pressure conditions in sealed containers when kept dry.

Chemical Stability: Conditions to Avoid

Product evolves considerable heat upon contact with moist air or water. Avoid rapid mixing of product with concentrated chemicals having high heats of adsorption such as hydrochloric acid or olefinic compounds. Used product may contain adsorbed hazardous materials that could be released upon heating or contact with water.

Incompatibility

Prevent unintentional contact with water or moisture.

Hazardous Decomposition

Used product may release adsorbed hazardous materials upon exposure to heat, humid air, or water.

Hazardous Polymerization

Will not occur.

*** Section 11 - Toxicological Information ***

Acute and Chronic Toxicity

A: General Product Information

The following acute toxicity data has been reported for this product:

Oral LD50 rat > 10,000 mg/Kg

Dermal LD50 rabbit > 2000 mg/Kg

Inhalation LC50 rat > 18.3 mg/L

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Short term single exposure unlikely to cause skin irritation. Ingestion, inhalation, or contact with eyes or mucous membranes will cause irritation or thermal burns. Chronic exposure to respirable dust may lead to delayed lung injury such as fibrosis. Asthma and chronic respiratory conditions may be aggravated by exposure to this product.

B: Component Analysis - LD50/LC50

Magnesium aluminosilicate clay (1327-43-1)

Oral LD50 Rat: >16 gm/kg

Carcinogenicity

A: General Product Information

None identified.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

*** Section 12 - Ecological Information ***

Ecotoxicity

A: General Product Information

The following ecotoxicity data has been reported for this product:

Daphnia EC50 48 hr. 1000-1800 mg/L

Fish LC50 96 hr. 1800-3200 mg/L

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

Environmental Fate

Product is non-biodegradable. Product is insoluble, and may be separated by filtration or sedimentation. Used product may release adsorbed toxic or hazardous substances upon exposure to heat or moisture.

*** Section 13 - Disposal Considerations ***

US EPA Waste Number & Descriptions

A: General Product Information

This product, if discarded as sold, is not expected to be a hazardous waste according to U.S. RCRA regulations. Depending on application, used product may have adsorbed significant quantities of regulated, hazardous or toxic substances. Adsorbed substances may be released during handling and disposal of used product, particularly upon exposure to moisture or heat. Chemical waste generator must determine whether discarded product is classified as a hazardous waste. US EPA guidance for waste classification is given in 40 CFR 261.3.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

Store used product in sealed airtight container to minimize release of adsorbed substances. Waste must be handled in accordance with all federal, state, provincial, and local regulations. Used product may be disposed of in a permitted waste management facility qualified to process the adsorbed contaminant(s). Never dispose by means of public sewers or drainage.

*** Section 14 - Transportation Information ***

US DOT Information

Shipping Name: This material is not regulated as a hazardous material for transportation.

TDG Information

Shipping Name: This material is not regulated as a hazardous material for transportation.

*** Section 15 - Regulatory Information ***

US Federal Regulations

A: General Product Information

None identified.

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B: Component Analysis

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

State Regulations

A: General Product Information

U.S. state regulations may apply. Check individual state regulations.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Sodium aluminosilicate (related to Nuisance particulates)	1344-00-9	No	No	No	No	No	Yes ¹

Canadian WHMIS Information

A: General Product Information

Product has a WHMIS classification of D2B.

B: Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

Additional Regulatory Information

A: General Product Information

Components of this product have been checked against the non-confidential TSCA inventory by CAS Registry Number. Components not identified on this non-confidential inventory are either exempt from listing (i.e. polymers, hydrates) or are listed on the confidential inventory as declared by the supplier.

B: Component Analysis - InventoryTSCA = U.S. EPA TSCA non-confidential inventory

CAN = Canadian DSL and NDSL Inventories status

EEC = European Union EINECS and ELINCS Inventories status

No = Not Present on the Designated Inventory(s).

Note: Substances not listed may be automatically included as in the case of naturally occurring substances, hydrates, or may be considered exempt as in the case of certain polymers.

Component	CAS #	TSCA	CAN	EEC
Sodium aluminosilicate	1344-00-9	Yes	DSL	EINECS
Magnesium aluminosilicate clay	1327-43-1	Yes	DSL	EINECS

*** Section 16 - Other Information ***

Other Information

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. As supplied, Zeochem molecular sieves present no hazards beyond those specified on this MSDS for unused product.

CAUTION: the user must be aware that this does not necessarily apply to spent product. Depending on the application, significant amounts of regulated, dangerous, hazardous or toxic materials may be adsorbed during normal use. Adsorbed substances can be released during subsequent handling and disposal, especially upon exposure to moisture or heat. The user needs to take appropriate measures for the safe handling and disposal of used product.

MSDS History

Version 1.0000, 13 Feb. 2003

Version 2.0000, 11 Aug. 2003

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Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; CAS = Chemical Abstracts Service; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; CFR = Code of Federal Regulations; CPR = Controlled Products Regulations; DOT = Department of Transportation; DSL = Domestic Substances List; EINECS = European Inventory of Existing Commercial Chemical Substances; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; IATA = International Air Transport Association; mg/Kg = milligrams per Kilogram; mg/L = milligrams per Liter; mg/m3 = milligrams per Cubic Meter; MSHA = Mine Safety and Health Administration; NA = Not Applicable or Not Available; NIOSH = National Institute for Occupational Safety and Health; NJTSR = New Jersey Trade Secret Registry; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit; TDG = Transport Dangerous Goods; TSCA = Toxic Substances Control Act; WHMIS = Workplace Hazardous Materials Information System.

This is the end of MSDS # ZEO-007