

Section 1: Identification of the Substance/Mixture and of the Company Undertaking

Product Name: Molsiv Adsorbent Airsep MS-4
Product Codes: 8828901
Product Description: Product Use Description: Adsorbents
Manufacturer Name: UOP LLC
Manufacturer Address 1: 25 E. Algonquin Road
 Des Plaines, IL 60017-5017
 USA
 Telefax: +1-847-391-2253
 In case of emergency call:
 Medical: 1-800-498-5701 or+1-303-389-1414
 Transportation (CHEMTREC): 1-800-424-9300 or+1-703-527-3887
 (24 hours/day, 7 days/week)

Business Phone: +1-847-391-2000
Distributor: UOP LLC
Distributor Address 1: 25 E. Algonquin Road
 Des Plaines, IL 60017-5017
 USA
 Telefax: +1-847-391-2253
 In case of emergency call:
 Medical: 1-800-498-5701 or+1-303-389-1414
 Transportation (CHEMTREC): 1-800-424-9300 or+1-703-527-3887
 (24 hours/day, 7 days/week)

Distributor Phone: +1-847-391-2000
Revision Date: 05/22/2015
 Supersedes: 02/07/2015

Notes from Section 1: HMIS III:
 Health hazard: 1*
 Flammability: 0
 Physical Hazard: 1
 NFPA:
 Health hazard: 1
 Flammability: 0
 Instability: 1
 * - Chronic health hazard
 Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Section 2: Hazards Identification



Signal Words: Danger

Product:

GHS Class (OSHA HCS): Classification of the substance or mixture:
Classification of the substance or mixture: Carcinogenicity, Category, 1A, Inhalation

Precautionary Statements: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P281 - Use personal protective equipment as required.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P405 - Store locked up.
P501 - Dispose of contents/container to an approved waste disposal plant.

Emergency Overview: Form: Beads or pellets
Color: White to tan
Odor: None

Product:

Note: Chemical nature: Mixture Note: Composition as shown represents the chemical composition of the product and is not representing the composition for inventory purposes. See Section 15 for inventory information.

Notes from Section 2: Hazard statements: May cause cancer by inhalation.

Hazards not otherwise classified: The product gets hot as it first adsorbs water.

Carcinogenicity:
NTP: Quartz (SiO₂) (14808-60-7) Known carcinogen
IARC: Quartz (SiO₂) (14808-60-7) Group 1: Carcinogenic to humans
ACGIH: Quartz (SiO₂) (14808-60-7) A2: Suspected human carcinogen

Section 3: Composition/Information on Ingredients

Ingredient Name	CAS Number	Ingredient Percent	EC Number	Comments
Zeolite, cuboidal, crystalline, synthetic, non-fibrous	1318-02-1	Concentration: > 70.00%		
Mineral binder		Concentration: < 30.00%		
Quartz (SiO ₂)	14808-60-7	Concentration: < 5.00%		

Product:

Comments: Chemical nature: Mixture Note: Composition as shown represents the chemical composition of the product and is not representing the composition for inventory purposes. See Section 15 for inventory information.

Section 4: First Aid Measures

Inhalation: Remove to fresh air. If symptoms persist, call a physician.

Skin Contact: Wash off with soap and plenty of water. If skin irritation persists, call a physician.

Eye Contact: Rinse immediately with plenty of water for at least 15 minutes. If eye irritation persists, consult a physician.

Ingestion: Drink at least 2 glasses of water. Obtain medical attention. Never give anything by mouth to an unconscious person.

Note To Physicians: Treatment: This product is a desiccant and generates heat as it adsorbs water. The used product can contain material of a hazardous nature. Identify that material and treat symptomatically.

Section 5: Firefighting Measures

Flash Point: Note: Not applicable

Extinguishing Media: Not combustible.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Protective Equipment: Special protective equipment for firefighters: In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

NFPA Health: 1

NFPA Fire: 0

NFPA Reactivity: 1

Notes from Section 5: Specific hazards during firefighting:
The product itself does not burn.
The used product can retain material of a hazardous nature.
Identify that material and inform the fire fighters.

Section 6: Accidental Release Measures

Personnel Precautions: For personal protection see section 8.

Environmental Precautions: No special environmental precautions required.

Methods for Cleanup: Sweep, shovel or vacuum spilled product into appropriate containers (do not use a vacuum if material has contacted a hydrocarbon material).
Pick up and arrange disposal without creating dust.
Never return spills in original containers for re-use.
Spilled product should be disposed of in accordance with all applicable government regulations.

Section 7: Handling and Storage

Handling: Handle and open container with care.
Avoid dust formation.
Avoid contact with skin and eyes.
Provide an electrical ground connection during loading and transfer operations to avoid static discharge in an explosive atmosphere and to prevent persons handling the product from receiving static shocks.
A copy of UOP's booklet, "Precautions & Safe Practices for Handling Zeolite Molecular Sieve Adsorbents in Process Units", can be obtained from your UOP representative at no cost.

Storage: Requirements for storage areas and containers:
Store in original container.
Keep in a dry place.

Section 8: Exposure Controls/Personal Protection

Engineering Controls: Ensure adequate ventilation, especially in confined areas.

Eye Protection: Safety glasses
Safety goggles

Skin Protection:	Work uniform and gloves to prevent prolonged contact.
Respiratory Protection:	In case of insufficient ventilation, wear suitable respiratory equipment. Breathing apparatus with filter NIOSH classification N-100 or if oil/liquid aerosols are present P-100 (42 CFR 84).
PPE Routine Handling:	Handle in accordance with good industrial hygiene and safety practice.
Hand Protection:	Protective gloves
Protective Clothing:	Body protection: Work uniform and gloves to prevent prolonged contact.
Exposure limit:	<p>Component: Zeolite, cuboidal, crystalline, synthetic, non-fibrous CAS-No.: 1318-02-1 ACGIH: US. ACGIH Threshold Limit Values TWA: Time weighted average: 1 mg/m3 Update: 2008 Further information: Form of exposure: Respirable fraction.</p> <p>Component: Quartz (SiO₂) CAS-No.: 14808-60-7 ACGIH: US. ACGIH Threshold Limit Values TWA: Time weighted average: 0.025 mg/m3 Update: 2008 Further information: Form of exposure: Respirable fraction.</p> <p>NIOSH/GUIDE: US. NIOSH: Pocket Guide to Chemical Hazards REL: Recommended exposure limit (REL): 0.05 mg/m3 Update: 2005 Further information: Form of exposure: Respirable dust.</p> <p>Z1A: US. OSHA Table Z-1-A (29 CFR 1910.1000) TWA: Time weighted average: 0.1 mg/m3 Update: 1989 Further information: Form of exposure: Respirable dust.</p> <p>Z3: US. OSHA Table Z-3 (29 CFR 1910.1000) TWA: Time weighted average: 2.4 millions of particles per cubic foot of air. The exposure limit is calculated from the equation, $250/(\%SiO_2+5)$, using a value of 100% SiO₂. Lower percentages of SiO₂ will yield higher exposure limits. Update: 2000 Further information: Form of exposure: Respirable.</p> <p>Z3: US. OSHA Table Z-3 (29 CFR 1910.1000) TWA: Time weighted average: 0.1 mg/m3 The exposure limit is calculated from the equation, $10/(\%SiO_2+2)$, using a value of 100% SiO₂. Lower percentages of SiO₂ will yield higher exposure limits. Update: 2000 Further information: Form of exposure: Respirable.</p> <p>Z3: US. OSHA Table Z-3 (29 CFR 1910.1000) TWA: Time weighted average: 0.3 mg/m3 The exposure limit is calculated from the equation, $30/(\%SiO_2+2)$, using a value of 100% SiO₂. Lower values of % SiO₂ will give higher exposure limits. Update: 2000 Further information: Form of exposure: Total dust.</p>

Section 9: Physical and Chemical Properties

Physical State:	Beads or pellets
Color:	White to tan
Odor:	None
pH:	Note: Not applicable
Melting Temperature:	> 400 deg C
Boiling Temperature:	Note: Not applicable
Flash Point:	Note: Not applicable

Density:	> 2.0 g/cm ³
	Bulk density: Note: For further information, refer to the product technical data sheet.
Solubility In Water:	Note: Insoluble
Solubility:	In other solvents: Note: Insoluble
Specific Gravity:	> 1.0

Section 10: Stability and Reactivity

Chemical Stability:	Stable
Incompatible Materials:	Incompatible materials to avoid: Sudden contact with high concentrations of chemicals having high heats of adsorption such as olefins, HCl, etc. When first wetted, the product can heat up to the boiling point of water. Flood with water to cool material.
Hazardous Decomposition Products:	No decomposition if used as directed. Hydrocarbons and other materials that contact the product during normal use can be retained on the product. It is reasonable to expect that decomposition products will come from these retained materials of use.

Section 11: Toxicological Information

Product:	
Skin Toxicity:	Acute dermal toxicity: LD50 Dermal: > 2,000 mg/kg Species: Rabbit
Ingestion Toxicity:	Acute oral toxicity: LD50 Oral: > 32,000 mg/kg Species: Rat
Inhalation Toxicity:	Acute inhalation toxicity: Note: No data available
Irritation:	Skin irritation: Species: Rabbit Classification: Not classified as a skin irritant in animal testing. Eye irritation: Species: Rabbit Result: Mild transient effects
Notes from Section 11:	Further information: Note: The toxicological data has been taken from products of similar composition.

Section 12: Ecological Information

Product:	
Biodegradation:	Biodegradability: Note: No data available
BioAccumulation:	Note: No data available

Effect of Material On Aquatic:	Toxicity to fish: Note: No data available
	Toxicity to daphnia and other aquatic invertebrates: Note: No data available
	Toxicity to algae: Note: No data available
Notes from Section 12:	Mobility: Note: No data available
	Further information on ecology: Additional ecological information: No information on ecology is available.

Section 13: Disposal Considerations

Waste Disposal:	This product (in its fresh unused state) is not listed by generic name or trademark name in the U.S. EPA's RCRA regulations and does not possess any of the four identifying characteristics of hazardous waste (ignitability, corrosivity, reactivity or toxicity). Materials of a hazardous nature that contact the product during normal use may be retained on this product. The user of the product must identify the hazards associated with the retained material in order to assess the waste disposal options.
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Section 14: Transport Information

DOT:	Not dangerous goods
IMDG:	Not dangerous goods
IATA:	Not dangerous goods
Canada TDG:	Not dangerous goods

Section 15: Regulatory Information

Regulatory - Product Based:

TSCA 8(b): Inventory Status:

On the inventory, or in compliance with the inventory

Australia Chemical Inventory Status:

Australia. Industrial Chemical (Notification and Assessment) Act: On the inventory, or in compliance with the inventory

Canada DSL:

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL): All components of this product are on the Canadian DSL.

Japan Chemical Inventory Status:

Japan. Kashin-Hou Law List: On the inventory, or in compliance with the inventory

Korean Chemical Inventory Status:

Korea. Toxic Chemical Control Law (TCCL) List: On the inventory, or in compliance with the inventory

Philippines Chemical Inventory**Status:**

Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act: On the inventory, or in compliance with the inventory

International Chemical Inventory**Lists:**

China. Inventory of Existing Chemical Substances: On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand: On the inventory, or in compliance with the inventory

Notes 1:

Note: Zeolites are considered Statutory Mixtures for Inventory purposes, for more information, contact SafetyDataSheet@honeywell.com.

Section 302:

SARA 302 Components: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section 313 Toxic Release Form:

SARA 313 Components: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Section 312 Hazard Category:

SARA 311/312 Hazards: Chronic Health Hazard

Canada WHMIS:**WHMIS Classification:**

D2A: Very Toxic Material Causing Other Toxic Effects

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Regulatory - Ingredient Based:**Quartz (SiO₂):****Section 302:**

SARA 302 Components: Quartz (SiO₂) 14808-60-7

Section 313 Toxic Release Form:

SARA 313 Components: Quartz (SiO₂) 14808-60-7

State:

California Prop. 65: WARNING! This product contains a chemical known to the State of California to cause cancer. Quartz (SiO₂) 14808-60-7

Massachusetts RTK: Quartz (SiO₂) 14808-60-7

New Jersey RTK: Quartz (SiO₂) 14808-60-7

Pennsylvania RTK: Quartz (SiO₂) 14808-60-7

Section 16: Additional Information**Revision Date:**

05/22/2015
Supersedes: 02/07/2015

Revision Notes:

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Version Number:

2.0

Author:

Prepared by: Honeywell Performance Materials and Technologies Product Stewardship Group

Disclaimer:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Notes from Section 16:

HMIS III

* - Chronic health hazard

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

HMIS:

Health	1*
Flammability	0
Reactivity	1
PPE	

Chronic Health Hazard

NFPA:

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