

# Material Safety Data Sheet

## Molsieve 5A filter assy for Micro GC

### 1. Product and company identification

This product is considered an article. This Material Safety Data Sheet is written based on the encapsulated substance or mixture in this article.

<b>Product name</b>	: Molsieve 5A filter assy for Micro GC
<b>Material uses</b>	: Analytical chemistry. < 5 ml Tube
<b>Supplier/Manufacturer</b>	: Agilent Technologies, Inc. Logistics Center - Americas 500 Ships Landing Way New Castle, Delaware 19720 800-227-9770
<b>Part No.</b>	: CP742979
<b>Validation date</b>	: 07/18/2013
<b>In case of emergency</b>	: CHEMTREC®: 1-800-424-9300

### 2. Hazards identification

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.

<b>Physical state</b>	: Solid.
<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

#### Emergency overview

<b>Signal word</b>	: DANGER!
<b>Hazard statements</b>	: CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER.
<b>Precautions</b>	: Avoid exposure - obtain special instructions before use. Do not breathe dust. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

#### Potential acute health effects

<b>Inhalation</b>	: Corrosive to the respiratory system.
<b>Ingestion</b>	: Corrosive to the digestive tract. Causes burns.
<b>Skin</b>	: Corrosive to the skin. Causes burns.
<b>Eyes</b>	: Corrosive to eyes. Causes burns.

#### Potential chronic health effects

<b>Chronic effects</b>	: Contains material that may cause target organ damage, based on animal data.
<b>Carcinogenicity</b>	: Contains material which may cause cancer. Risk of cancer depends on duration and level of exposure.
<b>Mutagenicity</b>	: No known significant effects or critical hazards.
<b>Teratogenicity</b>	: No known significant effects or critical hazards.
<b>Developmental effects</b>	: No known significant effects or critical hazards.
<b>Fertility effects</b>	: No known significant effects or critical hazards.
<b>Target organs</b>	: Contains material which may cause damage to the following organs: lungs, the nervous system, mucous membranes, digestive system, upper respiratory tract, skin, eye, lens or cornea, testes.

## 2. Hazards identification

### Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Ingestion** : Adverse symptoms may include the following:  
stomach pains
- Skin** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Eyes** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

## 3. Composition/information on ingredients

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.

Name	CAS number	%
Silicon dioxide	7631-86-9	60 - 100
Aluminium oxide	1344-28-1	30 - 60
Calcium oxide	1305-78-8	10 - 30
Disodium oxide	1313-59-3	10 - 30
Quartz (SiO <sub>2</sub> )	14808-60-7	0.1 - 1

Note: The hazard information listed is based on unbonded silica gel CAS Number 7631-86-9. To the best of our knowledge, the acute and chronic toxicological properties of bonded silica gels have not been investigated. This product contains synthetic amorphous silica, and should not be confused with crystalline silica such as quartz, cristobalite, or tridymite, or with diatomaceous earth or other naturally occurring forms of amorphous silica that frequently contain crystalline forms of silica.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

## 4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

## 4. First aid measures

- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5. Fire-fighting measures

- Flammability of the product** : No specific fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
  - Not suitable** : None known.
- Special exposure hazards** : No action shall be taken involving any personal risk or without suitable training.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Place spilled material in a designated, labeled waste container. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

## 7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure - obtain special instructions before use. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8. Exposure controls/personal protection

Since the hazardous ingredient in this article is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

Ingredient	Exposure limits
Silicon dioxide	<b>NIOSH REL (United States, 1/2013).</b> TWA: 6 mg/m <sup>3</sup> 10 hours.
Aluminium oxide	<b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Dust TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction
	<b>ACGIH TLV (United States).</b> TWA: 1 mg/m <sup>3</sup> Form: Respirable
	<b>OSHA PEL (United States, 6/2010).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m <sup>3</sup> 8 hours. Form: Total dust
	<b>ACGIH TLV (United States, 3/2012).</b> TWA: 1 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction
	<b>NIOSH REL (United States, 1/2013). Notes: as Al</b> TWA: 5 mg/m <sup>3</sup> , (as Al) 10 hours. Form: PYRO POWDERS AND WELDING FUMES
	<b>ACGIH TLV (United States, 3/2012).</b> TWA: 2 mg/m <sup>3</sup> 8 hours.
	<b>NIOSH REL (United States, 1/2013).</b> TWA: 2 mg/m <sup>3</sup> 10 hours.
	<b>OSHA PEL (United States, 6/2010).</b> TWA: 5 mg/m <sup>3</sup> 8 hours.
	<b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m <sup>3</sup> 8 hours.
	<b>OSHA PEL Z3 (United States, 9/2005).</b> TWA: 250 MPPCF / (%SiO <sub>2</sub> +5) 8 hours. Form: Respirable TWA: 10 MG/M3 / (%SiO <sub>2</sub> +2) 8 hours. Form: Respirable TWA: 30 MG/M3 / (%SiO <sub>2</sub> +2) 8 hours. Form: Total dust.
Quartz (SiO <sub>2</sub> )	<b>ACGIH TLV (United States, 3/2012).</b> TWA: 0.025 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction
	<b>NIOSH REL (United States, 1/2013).</b> TWA: 0.05 mg/m <sup>3</sup> 10 hours. Form: respirable dust
	<b>OSHA PEL 1989 (United States, 3/1989). Notes: as quartz</b> TWA: 0.1 mg/m <sup>3</sup> , (as quartz) 8 hours. Form: Respirable dust

### Recommended monitoring procedures

- : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

### Engineering measures

- : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protection

#### Respiratory

- : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## 8. Exposure controls/personal protection

- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Other protection** : Not available.

## 9. Physical and chemical properties

- Physical state** : Solid.
- Flash point** : Not available.
- Auto-ignition temperature** : Not available.
- Flammable limits** : Not available.
- Color** : White.
- Odor** : Not available.
- pH** : Neutral.
- Boiling/condensation point** : Not available.
- Melting/freezing point** : Not available.
- Density** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Odor threshold** : Not available.
- Evaporation rate** : Not available.
- Solubility** : Insoluble in the following materials: cold water and hot water.

## 10. Stability and reactivity

- Chemical stability** : The product is stable.
- Conditions to avoid** : No specific data.
- Materials to avoid** : Reactive or incompatible with the following materials: oxidizing materials, organic materials, acids, alkalis and moisture.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

## 11. Toxicological information

### Acute toxicity

Not available.

### Chronic toxicity

**Conclusion/Summary** : Not available.

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Silicon dioxide	Eyes - Mild irritant	Rabbit	-	24 hours 25 milligrams	-

### Sensitizer

**Conclusion/Summary** : Not available.

### Carcinogenicity

#### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Silicon dioxide	-	3	-	-	-	-
Aluminium oxide	A4	-	-	-	-	-
Quartz (SiO <sub>2</sub> )	A2	1	-	+	Known to be a human carcinogen.	-

### Mutagenicity

**Conclusion/Summary** : Not available.

### Teratogenicity

**Conclusion/Summary** : Not available.

### Reproductive toxicity

**Conclusion/Summary** : Not available.

## 12. Ecological information

**Ecotoxicity** : This material is harmful to aquatic life with long lasting effects.

### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Silicon dioxide	Acute EC50 55.5 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Chronic NOEC 4.6 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
Aluminium oxide	Acute NOEC >100 mg/l	Algae	72 hours
Calcium oxide	Acute NOEC >100 mg/l	Daphnia	48 hours
	Chronic NOEC 100 mg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	46 days

**Other adverse effects** : No known significant effects or critical hazards.

## 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## 13. Disposal considerations

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## 14. Transport information

This Material Safety Data Sheet is written based on the encapsulated substance or mixture in this article. Since the hazardous ingredient is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

### Regulatory information

DOT / IMDG / IATA / : Not regulated.

## 15. Regulatory information

**HCS Classification** : Corrosive material  
Carcinogen  
Target organ effects

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined  
**United States inventory (TSCA 8b)**: All components are listed or exempted.  
**SARA 302/304**: No products were found.  
**SARA 311/312 Hazards identification**: Immediate (acute) health hazard, Delayed (chronic) health hazard

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Aluminium oxide	1344-28-1	15 - 40
Supplier notification	Aluminium oxide	1344-28-1	15 - 40

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: AMORPHOUS SILICA; ALUMINUM OXIDE; CALCIUM OXIDE

**New York** : None of the components are listed.

**New Jersey** : The following components are listed: ALUMINUM OXIDE; alpha-ALUMINA; CALCIUM OXIDE; LIME; SILICA, QUARTZ; QUARTZ (SiO<sub>2</sub>)

## 15. Regulatory information

**Pennsylvania** : The following components are listed: SILICA; ALUMINUM OXIDE (AL<sub>2</sub>O<sub>3</sub>); CALCIUM OXIDE (CAO); QUARTZ (SiO<sub>2</sub>)

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Quartz (SiO <sub>2</sub> )	Yes.	No.	No.	No.

## 16. Other information

**Label requirements** : CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

**Date of issue** : 07/18/2013

**Date of previous issue** : No previous validation.

**Version** : 1

☑ Indicates information that has changed from previously issued version.

### Notice to reader

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