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KJLC Code: **MST-3A-25LB**

ACTIO MSDS ID: 777005

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<b>SECTION 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION</b>																
(N/A)																

**Product Name:** **Molecular Sieve 13X 1/16**

**Synonyms:** Molecular Sieve 13X 1/16;  
Sodium/Calcium  
Aluminosilicate

**CAS Number:** Mixture

**Manufacturer Name:** Kurt J. Lesker Company

**Address:** 1925 Worthington Avenue  
Clairton, PA 15025

Emergency Phone  
Numbers:  
CHEMTREC (USA):  
800-424-9300  
Outside the USA:  
703-527-3887 collect calls  
accepted  
Poison Center (USA):  
800-222-1222

**General Use:** Chemical Use: Absorbent

**Business Phone:** 412-387-9200

**Business Fax:** 412-384-2745

**Revision Date:** 11/07/2007 (ewr)


4: Extreme  
3: Serious  
2: Moderate  
1: Slight  
0: Minimal

PPE: X=Site Determined

Note: See Section 8 for additional information on PPE

Chemical Name: Molecular Sieve 13X 1/16; Sodium/Calcium Aluminosilicate

**Product Codes:** KJLC: MST-13X-1/8, MST-13X1/16D, MST-3A-1/6, MST-3A-25LB

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**SECTION 2 : COMPOSITION, INFORMATION ON INGREDIENTS** : (N/A)

<b>Ingredient Name</b>	<b>CAS#</b>	<b>Ingredient Percent</b>
Silicon oxide (synthetic)	7631-86-9	< 65% by Weight
OSHA PEL TWA: ACGIH TLV TWA: EC Index Number:	15 mg/m3 (TD), 5 mg/m3 (R) None Established 1	
Aluminum oxide (non-fibrous)	1344-28-1	< 35% by Weight
OSHA PEL TWA: ACGIH TLV TWA: EC Index Number:	15 mg/m3 (TD), 5 mg/m3 (R) 10 mg/m3 1	
Sodium oxide	1313-59-3	< 20% by Weight

OSHA PEL TWA: ACGIH TLV TWA: EC Index Number:	None Established None Established 1 UNITS: Not Applicable
Magnesium oxide	1309-48-4 < 5% by Weight
OSHA PEL TWA: ACGIH TLV TWA: EC Index Number:	15 mg/m3 (Total Particulate) 10 mg/m3 (I) 1
Quartz	14808-60-7 < 2% by Weight
OSHA PEL TWA: ACGIH TLV TWA: EC Index Number:	TD: 30 mg/m3/(%SiO2+2), RD: 10 mg/m3/(%SiO2+2) 0.05 mg/m3 (R) 1

**Note:** The OSHA Permissible Exposure Limits (PEL) are determined from the percentage of quartz from airborne samples.

Abbreviations:  
N.A. – Not Applicable  
N.E. – None Established  
SC – Soluble Compounds  
RD – Respirable Dust  
TD – Total Dust  
FuD – Fume and Dust  
Fu – Fume  
I – Inhalable  
R – Respirable  
IS – Insoluble

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### SECTION 3 : HAZARDS IDENTIFICATION

: (N/A)

<b>Emergency Overview:</b>	Repeated or prolonged exposure may irritate eyes, skin and respiratory system. When first wetted, the product can heat up to the boiling point of water. Flood with water to cool material. Repeated and prolonged inhalation of crystalline silica in the form of quartz from occupational sources may cause cancer.
<b>Physical State:</b>	Form: Pellets
<b>Color:</b>	Tan
<b>Applies to all ingredients:</b>	
<b>Route of Exposure:</b>	Contact with skin and eyes. Exposure may also occur via inhalation or ingestion if product dust is generated.
<b>Potential Health Effects:</b>	
<b>Eye Contact:</b>	Dust and /or product may cause eye discomfort and/or irritation seen as tearing and reddening.
<b>Skin Contact:</b>	May cause skin irritation. The product gets hot as it first adsorbs water.
<b>Inhalation:</b>	Exposure to dust particles generated from this material may cause irritation of the respiratory tract. Repeated and prolonged inhalation of crystalline silica in the form of quartz from occupational sources may cause cancer.
<b>Ingestion:</b>	The product gets hot as it first adsorbs water. Burns to moist body tissues can result if contact is prolonged.
<b>Chronic Health Effects:</b>	Prolonged or repeated inhalation may cause lung injury/cancer.
<b><u>Silicon oxide (synthetic) :</u></b>	
<b>Carcinogenicity:</b>	International Agency for Research on Cancer (IARC): Silicon oxide (synthetic) – Unclassifiable as to carcinogenicity in humans (Group 3).
<b><u>Aluminum oxide (non-fibrous) :</u></b>	
<b>Carcinogenicity:</b>	American Conference of Governmental Industrial Hygienists (ACGIH): Aluminum oxide – Not Classifiable as a Human Carcinogen (A4).
<b><u>Quartz :</u></b>	
<b>Carcinogenicity:</b>	International Agency for Research on Cancer (IARC): Inhaled crystalline silica in the form of quartz from occupational sources is carcinogenic to humans (Group 1).  U.S. National Toxicology Program (NTP): Quartz – Known human carcinogen.


U.S. Occupational Safety and Health Administration (OSHA): Quartz – Known Carcinogen.

American Conference of Governmental Industrial Hygienists (ACGIH): Quartz – Suspected Human Carcinogen (A2)

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#### SECTION 4 : FIRST AID MEASURES : (N/A)

<b>Eye Contact:</b>	Flush immediately with plenty of water for at least 15 minutes. If eye irritation persists, consult a physician.
<b>Skin Contact:</b>	Wash off with soap and plenty of water. If skin irritation persists, call a physician.
<b>Inhalation:</b>	Remove the victim into fresh air. If symptoms persist, call a physician.
<b>Ingestion:</b>	Drink at least 2 glasses of water. Obtain medical attention. Never give anything by mouth to an unconscious person.
<b>Note to Physicians:</b>	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.

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#### SECTION 5 : FIRE FIGHTING MEASURES : (N/A)

<b>Explosion:</b>	Explosion limits: Not Applicable
<b>Flash Point:</b>	Not Applicable
<b>Auto Ignition Temperature:</b>	Not Applicable
<b>Extinguishing Media:</b>	Suitable: Non-combustible. Use extinguishing media for surrounding fire.
<b>Unsuitable Media:</b>	Not Applicable
<b>Protective Equipment:</b>	Special: In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.
<b>Unusual Fire Hazards:</b>	The product itself does not burn. The used product can retain material of a hazardous nature. Identify that material and inform the fire fighters.

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#### SECTION 6 : ACCIDENTAL RELEASE MEASURES : (N/A)

<b>Personal Precautions:</b>	See Section 8.
<b>Spill Cleanup Measures:</b>	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 use spilled product. Spilled product should be disposed of in accordance with all applicable government regulations.
<b>Environmental Precautions:</b>	No special environmental precautions required.

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#### SECTION 7 : HANDLING and STORAGE : (N/A)

<b>Handling:</b>	Handle and open container with care. Avoid formation of dust particles. 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 and Safe Practices for Handling Zeolite Molecular Sieve Adsorbents in Process Units", can be obtained from your UOP representative at no cost.
<b>Storage:</b>	Store in original container. Keep in a dry place.

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#### SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION : (N/A)

<b>Engineering Controls:</b>	Where natural ventilation is inadequate, especially in confined areas, use mechanical ventilation, other engineering controls or respiratory protection to prevent inhalation of product dust.
<b>Personal Protective Equipment Routine Handling:</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Skin Protection Description:</b>	Work uniform and gloves to prevent prolonged contact.
<b>Hand Protection Description:</b>	Protective gloves.
<b>Eye/Face Protection:</b>	Safety glasses or goggles.
<b>Protective Clothing/Body Protection:</b>	Work uniform and gloves to prevent prolonged contact.
<b>Respiratory Protection:</b>	In case of insufficient ventilation, wear suitable respiratory equipment. Air-purifying respirator with NIOSH classification N-100 filter or P-100 (or equivalent) if oil/liquid aerosols are present (42 CFR

**SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES**


: (N/A)

Physical State/Appearance:	Form: Pellets
Color:	Tan
Odor:	None
pH:	Not Applicable
Vapor Pressure:	Not Applicable
Vapor Density:	Not Applicable
Flash Point:	Not Applicable
Auto Ignition Temperature:	Not Applicable
Boiling Point:	Not Applicable
Melting Point:	Not Applicable
Solubility:	Not Determined Water: Not Determined
Specific Gravity:	Not Applicable
Density:	Bulk: Not Determined Relative: Not Applicable
Viscosity:	Not Applicable

Explosion limits: Not Applicable


Info These data do not represent technical or sales specifications.

Abbreviations:  
AS – Aqueous slurry  
N.D. – Not Determined  
N.A. – Not Applicable

[To Top of page](#) **SECTION 10 : STABILITY and REACTIVITY**

: (N/A)

Chemical Stability:	Stable.
Conditions 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.
Incompatibilities with Other Materials:	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.

[To Top of page](#) **SECTION 11 : TOXICOLOGICAL INFORMATION**

: (N/A)

**Applies to all ingredients:**

Routes of Exposure:	Exposure may occur via inhalation, contact with skin and eyes.
Skin Effects:	Acute LD/dermal/rabbit = > 2000 mg/kg *
Ingestion Effects:	Acute LD50/oral/rat = > 32000 mg/kg *
Inhalation Effects:	Acute LC50/inhalation/rat = No data available.
Carcinogenicity:	EC Carcinogenic: Not listed.
Mutagenicity:	EC Mutagenic: Not listed.
Reproductive Toxicity:	EC Toxic for Reproduction: Not listed.
Irritation:	Skin (rabbit): Not classified as a skin irritant in animal testing. * Eye (rabbit): Mild eye irritation. *
Other Toxicological Information:	Additional component information: No data available.

**Silicon oxide (synthetic) :**


Carcinogenicity: IARC classification: Group 3 (Silicon oxide – synthetic)

**Aluminum oxide (non-fibrous) :**


Carcinogenicity: Carcinogenicity (ACGIH): A4 (Aluminum oxide)

**Quartz :**


Carcinogenicity:	Carcinogenicity (ACGIH): A2 (Quartz) IARC classification: Group 1 (Quartz)
Comments:	* The toxicological data has been taken from products of similar composition.

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Bioaccumulation:	No data available.
Biodegradation:	No data available.
Effect of Material On Aquatic Life:	Aquatic toxicity: No data available.
Mobility:	No data available.  Further Information: No information available.

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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.
EPA Waste Number:	Provisions relating to waste: EPA – Resource Conservation and Recovery Act (RCRA) Hazardous and Solid Waste Management Regulations.

[To Top of page](#) **SECTION 14 : TRANSPORT INFORMATION** : (N/A)

DOT Shipping Information:	Marine Pollutant DOT: No Remarks: Not Applicable
DOT Shipping Name:	Not applicable.
DOT UN Number:	Not applicable.
DOT Hazard Class:	Not regulated.
DOT Packing Group:	Not applicable.
IATA:	Instr. Passenger: Not Applicable Instr. Cargo: Not Applicable Remarks: Not Applicable
IATA Class:	Not regulated.
RID/ADR:	Remarks: Not Applicable
RID/ADR Dangerous Goods Code:	Not Applicable
RID/ADR Class:	Not regulated.
Reportable Quantity:	U.S. DOT: Not Applicable
Maritime Transportation CGVS/GGVE/IMDG:	Remarks: Not Applicable
CGVS/GGVE/IMDG Class:	Not regulated.
EMS Number:	Not Applicable
Maritime Pollutant:	No

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TSCA 8(b): Inventory Status:	All the ingredients of this mixture are registered on the TSCA Chemical Substance Inventory.
SARA:	SARA Title III (Superfund Amendments and Reauthorization Act of 1986)
Section 302:	Section 302 (Extremely Hazardous Substances): The following component(s) of this product is/are subject to the emergency planning provisions of 40 CFR 355 when there are amounts equal to or greater than the Threshold Planning Quantity (TPQ): None
Section 304:	CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) Reportable Quantity: The following component(s) of this product is/are subject to release reporting under 40 CFR

302 when release exceeds the Reportable Quantity (RQ): None

**Section 313 Toxic Release Form:**

Section 313 (Toxic Chemicals): The following component(s) have been specified as Toxic Chemicals under SARA Section 313 and may be subject to the Toxic Release Inventory (TRI) reporting requirements under 40 CFR 372: None

**State:**

California – Proposition 65: Silica, crystalline  
 Massachusetts Right-To-Know: Amorphous silica  
 New Jersey Right-To-Know: Silica, amorphous  
 Pennsylvania Right-To-Know: Silica

Note: Other U.S. State Regulations may exist, check your local sources if available or contact the UOP Product Stewardship Manager (see Section 16).

**Canada WHMIS:**

Canadian Hazardous Products Act: This product is classified as a material causing Other Toxic Effects, carcinogenicity – Class D, Division 2, Subdivision A.

Canadian Environmental Protection Act: All the ingredients of this mixture are notified to CEPA and on the DSL (Domestic Substances List).

**European Community Chemical Inventory Status:**

European Union (EU):  
 European Inventory of Existing Commercial Chemical Substances: All components of this product are included in EINECS/ELINCS.

Council of European Communities Directive on Classification, Packaging and Labelling of Dangerous Substances/Preparation (67/548/EEC & 1999/45/EC, as amended): No Dangerous Goods Label Required.

**Japan Chemical Inventory Status:**

Japan – Existing and New Chemical Substances (ENCS): All the ingredients of this mixture appear on the ENCS.

**Australia Chemical Inventory Status:**

Australia – Inventory of Chemical Substances (AICS): All the ingredients of this mixture appear on the AICS.

**International Chemical Inventory Lists:**

China: All the ingredients of this mixture appear on the China Inventory.

Korea – Existing and Evaluated Chemical Substances (ECL): All the ingredients of this mixture appear on the ECL.

Philippines – Inventory of Chemicals and Chemical Substances (PICCS): All the ingredients of this mixture appear on the PICCS.

**Aluminum oxide (non-fibrous) :**

**State:**

Massachusetts Right-To-Know: Aluminum oxide  
 New Jersey Right-To-Know: Aluminum oxide  
 Pennsylvania Right-To-Know: Aluminum oxide

**Magnesium oxide :**


**State:**

New Jersey Right-To-Know: Magnesium oxide  
 Pennsylvania Right-To-Know: Magnesium oxide

**Quartz :**

**State:**

Massachusetts Right-To-Know: Quartz  
 New Jersey Right-To-Know: Silica, quartz  
 Pennsylvania Right-To-Know: Quartz

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**SECTION 16 : ADDITIONAL INFORMATION**

: (N/A)

**HMIS:**

Health Hazard: 1 = Slight  
 Fire Hazard: 0 = Minimal  
 Reactivity: 1 = Slight  
 Personal Protection: X=Site Determined

**NFPA:**

Health: 1 = Slight  
 Fire Hazard: 0 = Minimal  
 Reactivity: 1 = Slight

**MSDS Revision Date:** 11/07/2007 (ewr)

**Disclaimer:**

Kurt J. Lesker Company ("KJLC") believes the information contained in this Material Safety Data Sheet is accurate as of the "Date of Last Revision" Specified. The information relates only to typical properties of the product. Do not use the information for product performance or specification purposes. The information is for use by technically skilled persons at their own risk. KJLC MAKES NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND, INCLUDING WITHOUT LIMITATION WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE PRODUCT OR THE INFORMATION. The information may not be valid for product use in combination with any other product or material or in any process, KJLC expressly disclaims any liability arising from any use of the product or any reliance on the information. Do not treat the information (a) as assurance that use of the product will not infringe patent or other rights or (b) as a license or grant of patent or other property rights. "KJLC" means KJLC and each of its subsidiaries.

NONE

4: Extreme  
 3: Serious  
 2: Moderate

1: Slight  
0: Minimal

Note: See Section 8 for additional information on PPE

ND = No Data Available  
NA = Not Applicable

13105 Northwest Freeway

**ADDENDUM : Other Client Information**

**Notes:**

, MST-13X-1/16,

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