



## Material Safety Data Sheet

Date: Jan/01/2020

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1. Identification of the product

**Substance name:** Zeolites

**Product name:** SYNTHETIC ZEOLITE POWDER 13X

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Use of the Substance/Mixture:** Molecular sieve for adsorption.

#### 1.3. Details of the supplier of the safety data sheet

Luoyang Jianlong Micro-nano New Materials Co., Ltd.

Add: Junmin Rd., Ind. Cluster District, Yanshi, Henan, 471900, China.

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www.molecular-sieve.cc E-mail: robert@molecular-sieve.cc

#### 1.4. Emergency telephone number

+86-379-69895719

### 2. HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

##### Classification (Regulation (EC) No 1272/2008):

This substance is not classified as dangerous according to Regulation (EC) No 1272/2008.

Classification (Directive 67/548/EEC):

This substance is not classified as dangerous according to Directive 67/548/EEC.

#### 2.2. Label elements

##### Label elements (REGULATION (EC) No 1272/2008):

This substance does not require a label.

#### 2.3. Other hazards

##### Potential health effects:

Possible temporary irritation of eyes and respiratory system. (Physical effect of dust)

Dehydrating/desiccant effect.

##### Environmental Effects:

In its normal state, this product does not present any specific risk for the environment.

##### Physical and chemical hazards:

No special risks of flammability or explosion.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	EC-No.	CAS-No.	Concentration	Classification Directive 67/548/EEC	Classification Regulation (EC) No 1272/2008
Zeolites	930-915-9	~	100 %	-	

**3.1. Substances Chemical name of the substance:** Zeolites.



#### 4. FIRST AID MEASURES

##### 4.1. & 4.2. Description of necessary first-aid measures & Most important symptoms/effects, acute and delayed:

###### General advice:

Remove soiled/dirty clothing, brush well and wash carefully.

###### Inhalation:

Move patient from contaminated area to fresh air. Blow nose. In case of persistent problems: Consult a physician. If dust inhalation is severe: move operator to fresh air, wash mouth and throat with plenty of water.

###### Skin contact:

Wash immediately, abundantly and thoroughly with soap and water.

###### Eye contact:

Wash immediately, abundantly and thoroughly with water. If irritation persists, consult an ophthalmologist. Do not scrub the eyes.

###### Ingestion:

Immediately give large quantities of water to drink. In case of problems: Consult a doctor.

**4.3. Indication of immediate medical attention and special treatment needed, if necessary:** No data available.

#### 5. FIREFIGHTING MEASURES

##### 5.1. Extinguishing media

**Suitable extinguishing media:** Incombustible product, Use suitable means to extinguish neighbouring fires.

**5.2. Special hazards arising from the substance or mixture:** None.

##### 5.3. Advice for firefighters:

###### Specific methods:

Non combustible product that reacts violently with water, foam and olefins or other adsorbable substances.

###### Special protective actions for fire-fighters:

In the event of fire, wear self-contained breathing apparatus.

#### 6. ACCIDENTAL RELEASE MEASURES

##### 6.1. Personal precautions, protective equipment and emergency procedures:

Avoid breathing dust. Do not crush; avoid the formation and spread of dust in the air.

##### 6.2. Environmental precautions:

Avoid generating airborne dust. Prevent product from entering drains.

##### 6.3. Methods and materials for containment and cleaning up:

###### Methods for cleaning up:

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

**Elimination:** See chapter 13

**6.4. Reference to other sections:** None.

#### 7. HANDLING AND STORAGE

##### 7.1. Precautions for safe handling:

###### Technical measures/Precautions:

Use suitable methods of discharge and handling to prevent dust generation. Protect from moisture/humidity.

###### Safe handling advice:

Smoking, eating and drinking should be prohibited in the application area. Avoid dust formation. Avoid dust accumulation in enclosed space. Appropriate breathing apparatus and safety goggles are recommended.

###### Hygiene measures:

Remove immediately soaked or soiled clothing. Wash separately. Wash immediately any affected parts of the



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body. See heading 4.

Wash hands after handling. Remove contaminated clothing and protective equipment before entering eating areas.

#### 7.2. Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a dry and well-ventilated place.

#### Packaging material:

Recommended: Large flexible bulk containers, watertight drums with polyethylene liner.

#### 7.3. Specific end use(s): None.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1. Control parameters:

##### Exposure Limit Values (dust)

Source	Date	Value type	Value (ppm)	Value (mg/m3)	Remarks
EH40 WEL	2007	TWA	–	4	Respirable dust.
EH40 WEL	2007	TWA	–	10	Inhalable dust.
ACGIH (US)	2008	TWA	–	10	Inhalable particles.
ACGIH (US)	2008	TWA	–	3	Respirable particles.

Exposure Limit Values: Not relevant

##### Derived No Effect Level (DNEL): ZEOLITES:

End Use	Inhalation	Ingestion	Skin contact
Workers	3 mg/m3 (LT, LE)		2,5 - 3 mg/kg (LT, SE)
Consumers	0,0033 mg/m3 (LT, LE)	1,25 - 1,5 mg/kg (SE, LT)	1,25 - 1,5 mg/kg (SE, LT)

**LE:** Local effects, **SE:** Systemic effects, **LT:** Long term, **ST:** Short term

##### Predicted No Effect Concentration: ZEOLITES:

Compartment:	Value:
Fresh water	3,2 mg/l
Marine water	0,32 mg/l
Soil	600 mg/kg
Effects on waste water treatment plants	95 mg/l

#### 8.2. Exposure controls:

##### Personal protective equipment:

Respiratory protection: Appropriate normalized breathing apparatus is recommended.

Hand protection: Impervious gloves

Eye/face protection: Safety glasses, Eye wash bottle with pure water

Skin and body protection: Protective suit

Environmental exposure controls: See chapter 6

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1. Information on basic physical and chemical properties

##### Appearance:

Physical state (20°C):

solid



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<b>Form:</b>	powder
<b>Colour:</b>	white
<b>Odour:</b>	None.
<b>Olfactory threshold:</b>	Not relevant
<b>pH:</b>	pH 8 - 11, aqueous sludge
<b>Melting point/range:</b>	> 400 °C (OECD Test Guideline 102)
<b>Boiling point/boiling range:</b>	not applicable
<b>Flash point:</b>	not applicable
<b>Evapouration rate:</b>	Not relevant
<b>Flammability (solid, gas):</b>	
Flammability:	not applicable
<b>Vapour pressure:</b>	not applicable
<b>Vapour density:</b>	Not relevant
<b>Relative density (Water=1):</b>	2,2
<b>Bulk density:</b>	600 - 800 kg/m <sup>3</sup> depending on grade.
<b>Water solubility:</b>	0,0014 g/l Negligible
<b>Partition coefficient: n-octanol/water:</b>	No data available.
<b>Auto-ignition temperature:</b>	not applicable
<b>Decomposition temperature:</b>	> 400 °C
<b>Viscosity, kinematic:</b>	not applicable
<b>Explosive properties:</b>	
Explosivity:	Not explosive
<b>Oxidizing properties:</b>	The substance or mixture is not classified as oxidizing.

**9.2. Other data:** None.

## 10. STABILITY AND REACTIVITY

### 10.1. & 10.2. Reactivity & Chemical stability:

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions:** No data available.

### 10.4. Conditions to avoid:

Store protected from moisture (to maintain the technical properties of the product)

### 10.5. Incompatible materials to avoid:

Water (exothermic reaction.)

**10.6. Hazardous decomposition products:** None.

## 11. TOXICOLOGICAL INFORMATION

To our knowledge, no harmful effects for man under normal conditions of use.

### 11.1. Information on toxicological effects:

**Acute toxicity:**



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**Inhalation:** No specific toxic effects to rats

ZEOLITES:

Aerosol LC0/4 h/rat: > 3350 mg/m<sup>3</sup> (Method: Calculation method)

**Ingestion:** Practically not harmful if swallowed

ZEOLITES:

LD50/rat: > 2.000 mg/kg (Method: OECD Test Guideline 401)

**Dermal:** Practically not harmful in contact with skin

ZEOLITES:

LD50/rabbit: > 2.000 mg/kg (Method: OECD Test Guideline 402)

**Local effects (Corrosion / Irritation / Serious eye damage):**

**Skin contact:** Non irritation to skin

ZEOLITES:

Non irritating to skin (OECD Test Guideline 404, rabbit)

**Eye contact:** Non irritation to eyes.

ZEOLITES:

Non irritating to eyes. (OECD Test Guideline 405, rabbit)

**Respiratory or skin sensitisation:**

**Inhalation:** No date available.

**Skin contact:** Not a skin sensitizer

ZEOLITES :

Not a skin sensitizer (Method: OECD Test Guideline 406 Guinea pig maximization test, guinea pig)

Not a skin sensitizer (Method: OECD Test Guideline 406 Buehler Test, guinea pig)

**CMR effects:**

**Mutagenicity:** Not genotoxic

**In vitro**

ZEOLITES:

Ames test: negative (Method: OECD Test Guideline 471) Chromosome aberration test in vitro: positive (Method:

OECD Test Guideline 473) In vitro gene mutations test on mammalian cells: negative (Method: OECD Test

Guideline 476

**In vivo**

ZEOLITES:

Chromosome aberration test in vivo: negative (Method: OECD Test Guideline 475)

Chromosome aberration test in vivo: negative (Method: OECD Test Guideline 474)

**Carcinogenicity:** Absence of carcinogenic effects

ZEOLITES:

Carcinogenic effects not demonstrated in animals (Method: No information available. rat, 2 years, Dietary)

**Reproductive toxicity:**



**Fertility:** No toxicity to reproduction

ZEOLITES: No toxic effects for reproduction, NOAEL: > 1600 mg/kg (Method: OECD Test Guideline 414)

**Specific target organ toxicity:**

**Single exposure:** No data available.

ZEOLITES:

Dietary: NOAEL= 250 - 300 mg/kg (Method: No information available., rat, Subchronic exposure, 90 d)

Dietary: NOAEL= 60 mg/kg (Method: No information available., rat, Chronic, 2 y) inhalation: (Method: No information available., rat, Subacute, 28 d)

**Aspiration hazard:** not applicable

## 12. ECOLOGICAL INFORMATION

Ecotoxicology Assessment:

No known harmful effect on the aquatic environment. Product must not be released into the environment if dangerous substances are adsorbed onto the product. Insoluble in aqueous solution, the product can be separated by filtration or sedimentation.

### 12.1. Toxicity: Fish:

ZEOLITES:

LC50, 96 h (Pimephales promelas (fathead minnow)) : > 680 mg/l (Method: US EPA) Freshwater

### Aquatic invertebrates:

ZEOLITES:

EC50, 48 h (Daphnia): > 100 mg/l (Method: OECD Test Guideline 202) Freshwater

### Aquatic plants:

ZEOLITES:

EC50, 72 h (Desmodesmus subspicatus (green algae)): > 100 mg/l (Method: OECD Test Guideline 201) Freshwater

### Aquatic toxicity / Long term toxicity: Fish:

ZEOLITES:

NOEC, 30 d (Pimephales promelas (fathead minnow)): > 86,7 mg/l (Method: US EPA, Early-life Stage)

### Aquatic invertebrates:

ZEOLITES:

NOEC, 21 d (Daphnia magna (Water flea)): 32 mg/l (Method: OECD Test Guideline 211)

### 12.2. Persistence and degradability:

#### Stability in water:

Hydrolyses slowly on contact with water.

**Biodegradation (In water): Not relevant , inorganic**

### 12.3. Bioaccumulative potential:

**Bioaccumulation: Low potential to bioaccumulate**

### 12.4. Mobility in soil - Distribution among environmental compartments:

#### Absorption / desorption:

Due to its physico-chemical characteristics, the product has very low mobility in the ground.

**12.5. Results of PBT and vPvB assessment:** None.



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**12.6. Other adverse effects:** None known.

### 13. DISPOSAL CONSIDERATIONS

#### 13.1. Waste treatment:

##### Disposal of product:

In accordance with local and national regulations. If product has been used (contains adsorbed substances): dispose of at an approved waste disposal site only. If product not used (in original state): dispose of in accordance with local regulations.

### 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

### 15. REGULATORY INFORMATION

Safety data sheets: according to Regulation (EC) No. 1907/2006 and its amendment (453/2010)

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture:

UK REGULATION Chip3: Chemical (Hazard Information and Packaging for Supply) Regulations 2002

#### 15.2. Chemical Safety Assessment: None.

#### INVENTORIES:

EINECS: Conforms to  
TSCA: Conforms to  
AICS: Conforms to  
DSL: All components of this product are on the Canadian DSL.  
ENCS (JP): Conforms to  
KECI (KR): Conforms to  
PICCS (PH): Conforms to  
IECSC (CN): Conforms to

### 16. OTHER INFORMATION

#### Thesaurus:

NOAEL: No Observed Adverse Effect Level (NOAEL)

LOAEL: Lowest Observed Adverse Effect Level (LOAEL)

bw: Body weight

food: oral feed

dw: Dry weight

vPvB : very Persistent and very Bioaccumulative

PBT : Persistent, Bioaccumulative and Toxic

This safety data sheet complies with international standard ISO 11014-1. In case of formulations or mixtures, it is necessary to ascertain that a new danger will not appear. The information contained is based on our knowledge of the product, at the date of publishing and it is given quite sincerely. Users are advised of possible additional hazards when the product is used in applications for which it was not intended. This sheet shall only be used and reproduced for prevention and security purposes. The references to legislative, regulatory and codes of practice documents cannot be considered as exhaustive. It is the responsibility of the person receiving the product to refer to the totality of the official documents concerning the use, the possession and the handling of the product. It is also the responsibility of the handlers of the product to pass on to any subsequent persons who will come into contact with the product (usage, storage, cleaning of containers, other processes) the totality of the information contained within this safety data sheet and necessary for safety at work, the protection of health and the protection of environment.

**NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma)**