SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier
Product Name: CBV 2314
Alternative names: ZEOLITE AMMONIUM ZSM-5 POWDER
CAS No.: 1318-02-1
EINECS No.: 215-283-8
REACH Registration No.: 01-2119455853-31-0011

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified use(s): Catalyst.

1.3 Details of the supplier of the safety data sheet
Company Identification: Zeolyst International
280 Cedar Grove Road
Conshohocken
PA 19428-2240
USA
Telephone: +1 610-651-4200
E-Mail (competent person): sds.uk@pqcorp.com

1.4 Emergency telephone number
Emergency Phone No.: Zeolyst +1 610-651-4200
Chem Trec +1 800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification: Not classified as dangerous for supply/use.
EC Classification: Not classified as dangerous for supply/use.

Hazards summary: May cause irritation to skin and eyes. May cause irritation to the respiratory system.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Regulation (EC) No. 1272/2008 (CLP)

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>%W/W</th>
<th>CAS No.</th>
<th>EINECS No. / REACH Registration</th>
<th>Hazard symbol(s) and hazard statement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zeolite</td>
<td>100</td>
<td>1318-02-1</td>
<td>215-283-8</td>
<td>Not classified.</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures
Eye Contact: If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. If symptoms develop, obtain medical attention.

Skin Contact: Wash affected skin with plenty of water. Continue to wash the affected area for at least 15 minutes. If symptoms develop, obtain medical attention.
Inhalation
Remove patient from exposure, keep warm and at rest. If symptoms develop, obtain medical attention.

Ingestion
Do not induce vomiting. Wash out mouth with water. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed
May cause irritation to skin and eyes. May cause irritation to the respiratory system.

4.3 Indication of any immediate medical attention and special treatment needed
Flush the contaminated area of body with large amounts of water.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media
Suitable Extinguishing Media
Normal extinguishing media. As appropriate for surrounding fire.

Unsuitable extinguishing Media
None known.

5.2 Special hazards arising from the substance or mixture
Not applicable. Inorganic powder or granules.

5.3 Advice for fire-fighters
Wear suitable protective clothing. Impervious gloves and boots. Chemical goggles (EN 166).

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear suitable protective clothing. Wear eye/face protection. An approved dust mask should be worn if dust is generated during handling.

6.2 Environmental precautions
Prevent entry into drains.

6.3 Methods and materials for containment and cleaning up
Contain spillages. Dampening with water can reduce dust. Sweep or preferably vacuum up and collect in suitable containers for recovery or disposal.

6.4 Reference to other sections
See Section: 8

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid generation of dust. Avoid contact with skin and eyes. Wash thoroughly after handling. Do not eat, drink or smoke at the work place. Wear protective equipment to comply with good occupational hygiene practice.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed and dry. Store in a cool/low-temperature, well-ventilated (dry) place.

7.3 Specific end use(s)
Not available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK EH40: Dust</td>
<td>Total inhalable: WEL 10mg/m³ 8h TWA. Respirable: WEL 4mg/m³ 8h TWA. ACGIH: Particulates not otherwise classified. Inhalable TLV 10mg/m³ 8h TWA. Respirable: TLV 3mg/m³ 8h TWA. OSHA: Inert or Nuisance Dust Total dust : PEL 15mg/m³ 8h TWA. Respirable fraction : PEL 5mg/m³ 8h TWA.</td>
</tr>
</tbody>
</table>

8.2 Exposure controls
8.2.1 Appropriate engineering controls
Provide adequate ventilation, including appropriate local extraction if dusts, fumes or vapours are likely to be evolved. Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions. Emergency shower and eye wash facilities should be readily available.

8.2.2 Personal Protection
Respiratory protection
Avoid inhalation of dusts. Wear suitable respiratory protective equipment if working in confined spaces with inadequate ventilation or where there is any risk of the exposure limits being exceeded.

Eye/face protection
Safety spectacles. Goggles.

Skin protection
Wear suitable protective clothing and gloves. Plastic or rubber gloves. For example EN374-3. Wear suitable overalls.

8.2.3 Environmental Exposure Controls
Use with local exhaust ventilation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
Appearance
Powder. White.

Odour
Odourless.

Odour Threshold (ppm)
Not available.

pH (Value)
Not applicable.

Freezing Point (°C)
Not applicable.

Melting Point (°C)
> 1000

Boiling Point (°C)
Not applicable.

Flash Point (°C) [Closed cup]
Not applicable.

Evaporation rate
Not applicable.

Flammability (solid, gas)
Not applicable.

Explosive Limit Ranges
Not applicable.

Vapour Pressure (mm Hg)
Not applicable.

Vapour Density (Air=1)
Not applicable.

Density (g/ml)
>1

Solubility (Water)
Insoluble.

Solubility (Other)
Not available.

Partition Coefficient
Not available.

Auto Ignition Point (°C)
Not applicable.

Decomposition Temperature (°C)
Not applicable.

Viscosity (mPa. s)
Not available.

Explosive properties
Not applicable.

Oxidising Properties
Not applicable.

9.2 Other information
Not available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
Not to be expected.

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Contact with water generates heat
Ammonia may be released on contact with strong bases.

10.4 Conditions to avoid
Keep away from heat.

10.5 Incompatible materials
None

10.6 Hazardous decomposition product(s)
Ammonia, Nitrogen oxides

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity
Ingestion  Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.
Inhalation  Avoid inhalation of dusts. Existing medical conditions (eg. asthma, bronchitis) may be aggravated by exposure to dust. Effects of dust may be greater, and occur at lower levels of exposure in smokers compared to non-smokers.
Skin Contact  Dust may have a drying effect on the skin.
Eye Contact  Dust may cause discomfort and mild irritation.
Sensitisation  It is not a skin sensitisier.
Mutagenicity  There is no evidence of mutagenic potential.
Carcinogenicity  IARC assessment: Similar material (synthetic zeolite) is not classifiable as to its carcinogenicity to humans (Group 3).
Reproductive toxicity  No evidence of reproductive toxicity or developmental toxicity.
STOT - single exposure  Not available.
STOT - repeated exposure  Not available.
Other information  Not available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity  No environmental hazards have been reported or known.
12.2 Persistence and degradability  No data.
12.3 Bioaccumulative potential  No data. The product has low potential for bioaccumulation.
12.4 Mobility in soil  No data.
12.5 Results of PBT and vPvB assessment  Not classified as PBT or vPvB.
12.6 Other adverse effects  None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods  Disposal should be in accordance with local, state or national legislation. Not a hazardous waste under RCRA Sec.3001. This material is not classified as hazardous waste under EC Directive 2008/98/EC (and amendments). This material is not classified as hazardous waste under the Hazardous Waste (England and Wales) Regulations SI 2005 No. 894. This material is not classified as hazardous waste under the Hazardous Waste (England and Wales) Regulations SI 2005 No. 894.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number  Not classified as dangerous for transport.
14.3 Transport hazard class(es)  Not applicable.
14.4 Packing group  Not applicable.
14.5 Environmental hazards  Not classified as a Marine Pollutant.
14.6 Special precautions for user  No special packaging requirements.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
15.2 Chemical Safety Assessment  Not applicable.

SECTION 16: OTHER INFORMATION

This SDS was last reviewed: 09/2014
The following sections contain revisions or new statements: All sections.

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