1. Identification

1.1. Product identifier

Trade name: AEROSIL® COK 84

1.2. Recommended use of the chemical and restrictions on use

Relevant applications identified:
- Agricultural products
- Adhesive
- Personal care
- Paints and varnishes
- Dispersing agent

1.3. Details of the supplier of the safety data sheet

Company: Evonik Corporation USA
299 Jefferson Road
Parsippany, NJ 07054-0677
USA

Telephone: 973-929-8000
Telefax: 973-929-8040
Email address: Product-Regulatory-Services@Evonik.com

1.4. 24 HOUR EMERGENCY TELEPHONE NUMBERS:

CHEMTREC - US & CANADA: 800-424-9300

CHEMTREC MEXICO: 01-800-681-9531

CHEMTREC INTERNATIONAL: +1 703-527-3887 (collect calls accepted)

Product Regulatory Services: 973-929-8060

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation 29CFR 1910.1200
Remarks: Not a hazardous substance or mixture.

2.2. Label elements

Statutory basis: Classification according to Regulation 29CFR 1910.1200
Remarks: Not a hazardous substance or mixture.

2.3. Other hazards

Silicon dioxide, chemically prepared: Not a PBT, vPvB substance as per the criteria of the REACH Regulation.
3. Composition/information on ingredients

3.1. Substances
not applicable

3.2. Mixtures

- **Silicon dioxide, chemically prepared**
  - CAS-No.: 112945-52-5
  - Remarks: Not a hazardous substance or mixture.

- **Aluminium oxide**
  - CAS-No.: 1344-28-1
  - Remarks: Not a hazardous substance or mixture.

Other information
A new CAS, 112945-52-5, has been assigned to amorphous, fumed silica to distinguish it from crystalline silica. According to the EPA, this product meets TSCA requirements and is listed on the TSCA inventory as silica with CAS 7631-86-9.

4. First aid measures

4.1. Description of first aid measures

- **Inhalation**
  - In case product dust is released: Possible discomfort: cough, sneezing
  - Move victims into fresh air.

- **Skin contact**
  - Wash off with soap and plenty of water.

- **Eye contact**
  - In case of contact, immediately flush eyes with plenty of water for at least 15 minutes or until all material has been removed. Obtain medical attention.

- **Ingestion**
  - If accidentally swallowed, rinse mouth thoroughly with water and afterwards, drink plenty of water. In case of discomfort, obtain medical attention.

4.2. Most important symptoms and effects, both acute and delayed

- **Symptoms**
  - None known

4.3. Indication of any immediate medical attention and special treatment needed

- No hazards which require special first aid measures.

5. Fire-fighting measures

5.1. Extinguishing media

- Suitable extinguishing media: Water spray, foam, CO2, dry powder. Adapt fire-extinguishing measures to surroundings.

- Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

- None known.
5.3. Advice for firefighters
As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear personal protective equipment.

6.2. Environmental precautions
Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

6.3. Methods and material for containment and cleaning up
Sweep up or vacuum up spillage and collect in suitable container for disposal.

7. Handling and storage

7.1. Precautions for safe handling
Use with adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities
Advice on protection against fire and explosion
Take precautionary measures against static discharges.

Storage
Keep containers tightly closed in a dry, cool place.

8. Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Material</th>
<th>Control parameters</th>
<th>Exposure limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon dioxide, chemically prepared</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No. 112945-52-5 7631-86-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control parameters 20 millions of particles per cubic foot of air Time Weighted Average (TWA): (Z3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control parameters 0.8 mg/m³ Time Weighted Average (TWA): (Z3) The exposure limit is calculated from the equation, 80/(%SiO₂), using a value of 100% SiO₂. Lower values of % SiO₂ will give higher exposure limits.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
<th>Control parameters</th>
<th>Exposure limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium oxide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No. 1344-28-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control parameters type of exposure 5 mg/m³ Respirable fraction. Permissible exposure limit: (OSHA Z1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control parameters type of exposure 15 mg/m³ Total dust. Permissible exposure limit: (OSHA Z1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control parameters type of exposure 10 mg/m³ Total dust. Time Weighted Average (TWA) Permissible Exposure Limit (PEL): (US CA OEL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control parameters type of exposure 5 mg/m³ Total dust. Time Weighted Average (TWA) Permissible Exposure Limit (PEL): (US CA OEL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control parameters type of exposure 1 mg/m³ Respirable fraction. Time Weighted Average (TWA): (ACGIH)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8.2. Exposure controls

Personal protective equipment

Respiratory protection
A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH’s “Respirator Decision Logic” may be useful in determining the suitability of various types of respirators.

Hand protection
Use impermeable gloves.

Eye protection
Wear safety glasses with side shields. In case dusts are formed, wear close fitting protective goggles.

Skin and body protection
A safety shower and eye wash fountain should be readily available. To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product.

Hygiene measures
When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work. To ensure ideal skin protection: use super fatted soaps and skin cream for skin care. Wash contaminated clothing before re-use.

Protective measures
Handle in accordance with good industrial hygiene and safety practice. If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used. If the workplace threshold limit value is exceeded and/or the substance is released, use appropriate respiratory protection.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>solid</td>
</tr>
<tr>
<td>Colour</td>
<td>white</td>
</tr>
<tr>
<td>Form</td>
<td>powder</td>
</tr>
<tr>
<td>Odour</td>
<td>odorless</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>not applicable</td>
</tr>
<tr>
<td>pH</td>
<td>3.6 - 4.3 (40 g / l)</td>
</tr>
<tr>
<td></td>
<td>(20 °C) (suspension)</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>ca. 1700 °C</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>not determined</td>
</tr>
<tr>
<td>Flash point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>not applicable</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>not applicable</td>
</tr>
</tbody>
</table>
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100739

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Upper explosion limit not applicable
Vapour pressure not applicable
Vapour density not applicable
Density ca. 2.4 g/cm³ (20 °C)
Water solubility insoluble
Partition coefficient: n-octanol/water not applicable
Autoignition temperature not applicable
Thermal decomposition > 2000 °C
Viscosity, dynamic not applicable

9.2. Other information
Explosiveness not to be expected, given the composition employed
Minimum ignition energy not applicable
Tapped density ca. 50 g / l
Method: DIN / ISO 787/11

10. Stability and reactivity
10.1. Reactivity
No dangerous reaction known under conditions of normal use.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
Possibility of hazardous See Sect. 10.1 Reactivity.
reactions

10.4. Conditions to avoid
Operations that create dust.

10.5. Incompatible materials
No further information available

10.6. Hazardous decomposition products
None known.
Stable under normal conditions.
Product will not undergo hazardous polymerization.

11. Toxicological information
11.1. Information on toxicological effects
No toxicological tests are available on the product.
Acute oral toxicity

Acute toxicity estimate: > 5000 mg/kg

LD50 Rat: > 5000 mg/kg
Test substance: Silicon dioxide, derived from chemical synthesis

LD50 Rat: > 5000 mg/kg
Method: OECD Test Guideline 401
Test substance: aluminium oxide

Acute inhalation toxicity

LC0 Rat: 0.139 mg/l / 4 h
Test substance: Silicon dioxide, derived from chemical synthesis
(maximum concentration attainable in experiments)
No deaths occurred.

Acute dermal toxicity

LD50 Rabbit: > 5000 mg/kg
Test substance: Silicon dioxide, derived from chemical synthesis

Skin irritation

Rabbit
Not irritating.
Method: literature

Eye irritation

Rabbit
Not irritating.
Method: literature

Sensitization

not known

Repeated dose toxicity

Oral
No negative effects.

Inhalation
No irreversible changes and no indication of silicosis.

Genotoxicity in vivo

No evidence of mutagenic effects reported in literature.
Related to substance: silica

Mutagenicity assessment

No evidence of mutagenic effects reported in literature.

Carcinogenicity

No negative effects.
Related to substance: silica

Toxicity to reproduction

No negative effects.

Human experience

Silicosis or other product specific illnesses of the respiratory tract have not been reported.

12. Ecological information

12.1. Toxicity

No ecotoxicological data is available for this product.

Toxicity to fish
LC50 (Brachydanio rerio): > 10000 mg/l / 96 h
Test substance:  Silicon dioxide, derived from chemical synthesis  
Method:  OECD 203  
The reported toxic effects relate to the nominal concentration.

<table>
<thead>
<tr>
<th>LC50 Salmo trutta:</th>
<th>&gt; 100 mg/l  / 96 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test substance:</td>
<td>aluminium oxide</td>
</tr>
<tr>
<td>literature</td>
<td></td>
</tr>
</tbody>
</table>

Test substance:  Silicon dioxide, derived from chemical synthesis  
Method:  OECD 202  
The reported toxic effects relate to the nominal concentration.

<table>
<thead>
<tr>
<th>EC50 Daphnia magna:</th>
<th>&gt; 1000 mg/l  / 24 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test substance:</td>
<td>aluminium oxide</td>
</tr>
<tr>
<td>literature</td>
<td></td>
</tr>
</tbody>
</table>

### 12.2. Persistence and degradability

**Biodegradability**  
The methods for determining biodegradability are not applicable to inorganic substances.

### 12.3. Bioaccumulative potential

**Bioaccumulation**  
Not to be expected.

### 12.4. Mobility in soil

**Mobility**  
No remarkable mobility in soil is to be expected.

### 12.5. Other adverse effects

**Further Information**  
The data we have at our disposal do not necessitate identification concerning environmental hazard.

### 13. Disposal considerations

#### 13.1. Waste treatment methods

**Product**  
Waste must be disposed of in accordance with federal, state and local regulations. Incineration is the preferred method.

**Uncleaned packaging**  
Packaging material should be recycled or disposed of in accordance with federal, state and local regulations.
Not dangerous according to transport regulations.

14.1. UN number: --
14.2. UN proper shipping name: --
14.3. Transport hazard class(es): --
14.4. Packing group: --
14.5. Environmental hazards (Marine pollutant): --
14.6. Special precautions for user: Yes
   Not dangerous according to transport regulations.

15. Regulatory information

US Federal Regulations

OSHA
If listed below, chemical specific standards apply to the product or components:
   ● None listed

Clean Air Act Section (112)
If listed below, components present at or above the de minimus level are hazardous air pollutants:
   ● None listed

CERCLA Reportable Quantities
If listed below, a reportable quantity (RQ) applies to the product based on the percent of the named component:
   ● None listed

SARA Title III Section 311/312 Hazard Categories
The product meets the criteria only for the listed hazard classes:
   ● No SARA Hazards

SARA Title III Section 313 Reportable Substances
If listed below, components are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
   ● None listed

Toxic Substances Control Act (TSCA)
If listed below, non-proprietary substances are subject to export notification under Section 12 (b) of TSCA:
   ● None listed
Other US Federal Regulatory Information

OSHA regulations require this product to be listed as hazardous in a Material Safety Data Sheet due to its listed TLV values. However, according to the Documentation of Threshold Limit Values and Biological Exposure indices, 6th edition, last revised in 1991: “The experimental and clinical data indicate that aluminum oxide acts as an “inert” material when inhaled and seems to have little effect on the lungs nor does it produce significant organic diseases or toxic effect when exposures are kept under reasonable control.”

State Regulations

California Proposition 65

A warning under the California Drinking Water Act is required only if listed below:

- None listed

An employer using HMIS/NFPA labeling must through training ensure that its employees are fully aware of the hazards of the chemicals used.

HMIS Ratings

<table>
<thead>
<tr>
<th>Health</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>0</td>
</tr>
</tbody>
</table>

NFPA Ratings

<table>
<thead>
<tr>
<th>Health</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
</tr>
</tbody>
</table>

16. Other information

Further information

Revision date: 04/19/2015

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

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<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>voc</td>
<td>volatile organic compounds</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>

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AEROSIL® COK 84

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