


**1 Identification**

- **Product identifier**
- **Trade name: FCC MIDAS® -0926**
- **Application of the substance / the preparation:** Catalyst
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
GRACE  
W. R. Grace & Co.-Conn  
7500 Grace Drive  
Columbia MD 21044  
U. S. A.
- **Information department:**  
Health and Safety (9 AM to 5 PM-EST) 1-410-531-4000  
MSDS.Davison@grace.com
- **Emergency telephone number:**  
Chemtrec North America: +1-800-424-9300  
Chemtrec International: +1-703-527-3887  
Other Emergencies (24hr): +1-410-531-4000

**2 Hazard(s) identification**

- **Classification of the substance or mixture**  
The product is not classified, according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements** None
- **Hazard pictograms** None
- **Signal word** None
- **Hazard statements** None
- **Precautionary statements**  
Do not breathe dust.  
Collect spillage.  
Store in accordance with local/regional/national/international regulations.  
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**  


Health = 1  
Fire = 0  
Reactivity = 0
- **HMIS-ratings (scale 0 - 4)**  

|            |   |
|------------|---|
| HEALTH     | 1 |
| FIRE       | 0 |
| REACTIVITY | 0 |

Health = \*1  
Fire = 0  
Reactivity = 0
- \* Product presents long-term adverse effects.
- **Hazard not otherwise classified**  
The product is very adsorbent and may have a drying effect on skin and eyes.  
Contains ~1% naturally occurring quartz that is bound in the product matrix reducing free respirable crystalline silica to <0.1%.  
WARNING. Contains a substance known to the State of California to cause cancer.

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**3 Composition/information on ingredients**· **Chemical characterization: Mixtures**· **Description:**

Mixture: consisting of the following components.  
Crystalline aluminosilicate with binders.  
Rare earth aluminosilicate (zeolite).


· **CAS No. and description:**

|            |  |        |
|------------|--|--------|
| 92704-41-1 | Kaolin, calcined                               | 25-50% |
| 1344-28-1  | Aluminium oxide (non-fibrous forms)            | 10-25% |
| 1318-02-1  | zeolites                                       | 10-25% |
| 7631-86-9  | amorphous silicon dioxide, chemically prepared | 10-25% |
| 1312-81-8  | lanthanum oxide                                | ≥1%    |
|            | Silica, crystalline (non respirable form)      | ≤ 1%   |

· **List of Dangerous Components**

|   |  |       |
|---|--|-------|
| Silica, crystalline (airborne particles of respirable size) |  Carc. 1A, H350 | <0.1% |
|---|--|-------|

· **Impurities and stabilizing additives:**

|   |  |  |
|---|--|--|
| Silica, crystalline (airborne particles of respirable size) |  Carc. 1A, H350 |  |
|---|--|--|

· **Additional information:**

The EPA has designated that non-fibrous forms of aluminum oxide are not a toxic chemical, under Section 313 of SARA  
Quartz is a natural occurring component of the binder. See note in Section 2.

**4 First-aid measures**· **Description of first aid measures**· **General information:**

Immediately remove contaminated clothing if necessary to prevent direct skin contact.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.· **After skin contact:**

Generally the product does not irritate the skin.  
Immediately flush skin with water for at least 15 minutes.  
If skin irritation occur, consult a doctor.

· **After eye contact:**

Flush opened eye with large quantities of running water for at least 30 minutes. If symptoms occur, consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.  
Seek medical attention. Do not induce vomiting.

· **Information for doctor:**· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

**5 Fire-fighting measures**· **Extinguishing media**· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

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- **Hazardous combustion products**  
In case of fire, the following can be released:  
Metal oxide fume
- **Advice for firefighters**
- **Protective equipment:**  
Wear personal protective equipment.  
Wear respiratory protective device.
- **Additional information**  
Collect contaminated fire fighting water separately. It must not enter the sewage system.  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Vacuuming or wet sweeping may be used to avoid dust dispersal.  
Dispose contaminated material as waste according to section 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

|           |  |                      |
|-----------|--|----------------------|
| 7631-86-9 | amorphous silicon dioxide, chemically prepared | 18 mg/m <sup>3</sup> |
| 1344-28-1 | Aluminium oxide (non-fibrous forms)            | 15 mg/m <sup>3</sup> |
| 1312-81-8 | lanthanum oxide                                | 4 mg/m <sup>3</sup>  |

- **PAC-2:**

|           |  |                       |
|-----------|--|-----------------------|
| 7631-86-9 | amorphous silicon dioxide, chemically prepared | 740 mg/m <sup>3</sup> |
| 1344-28-1 | Aluminium oxide (non-fibrous forms)            | 170 mg/m <sup>3</sup> |
| 1312-81-8 | lanthanum oxide                                | 44 mg/m <sup>3</sup>  |

- **PAC-3:**

|           |  |                         |
|-----------|--|-------------------------|
| 7631-86-9 | amorphous silicon dioxide, chemically prepared | 4,500 mg/m <sup>3</sup> |
| 1344-28-1 | Aluminium oxide (non-fibrous forms)            | 990 mg/m <sup>3</sup>   |
| 1312-81-8 | lanthanum oxide                                | 270 mg/m <sup>3</sup>   |

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Prevent formation of dust.  
Keep receptacles tightly sealed.  
Provide suction extractors if dust is formed.  
Use appropriate industrial vacuum cleaners or central vacuum systems for dust removal.  
Take precautionary measures against static discharges.
- **Information about protection against explosions and fires:**  
When transferring this material into flammable solvents, use proper grounding to avoid static electric sparks.  
The product is not flammable.

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- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.  
At this time, the remaining constituent has no known exposure limits.

|   |  |
|---|--|
| <b>1318-02-1 zeolites</b>                                       |  |
| PEL   | Long-term value: *15 **5 mg/m <sup>3</sup><br>OSHA, *Total Dust, **Respirable Dust                         |
| <b>7631-86-9 amorphous silicon dioxide, chemically prepared</b> |  |
| IDLH  | Short-term value: 3000 mg/m <sup>3</sup><br>IDLH: Immediately Dangerous to Life or Health                  |
| PEL   | Long-term value: 80mg/m <sup>3</sup> /%SiO <sub>2</sub> mg/m <sup>3</sup><br>OSHA TWA for amorphous silica |
| REL   | Long-term value: 6 mg/m <sup>3</sup><br>NIOSH TWA  |
| TLV   | Long-term value: 10* 5** mg/m <sup>3</sup><br>OSHA TWA *Total dust **Respirable fraction                   |
| <b>1344-28-1 Aluminium oxide (non-fibrous forms)</b>            |  |
| PEL   | Long-term value: 15*; 5** mg/m <sup>3</sup><br>*Total dust; ** Respirable fraction                         |
| REL   | Long-term value: 10* 5** mg/m <sup>3</sup><br>as Al*Total dust**Respirable/pyro powd./welding f.           |
| TLV   | Long-term value: 1* mg/m <sup>3</sup><br>as Al; *as respirable fraction                                    |
| <b>1312-81-8 lanthanum oxide</b>                                |  |
| PEL   | Long-term value: 15* 5** mg/m <sup>3</sup><br>OSHA TWA Total Dust* Respirable fraction**                   |
| TLV   | Long-term value: 10* 3** mg/m <sup>3</sup><br>ACGIH TWA Total Dust* Respirable fraction**                  |

**Additional Occupational Exposure Limit Values for possible hazards during processing:**

|                        |  |
|------------------------|--|
| <b>Dust inhalable</b>  |  |
| PEL                    | Long-term value: 15 mg/m <sup>3</sup><br>TWA |
| REL                    | Long-term value: 15 mg/m <sup>3</sup><br>TWA |
| <b>Dust respirable</b> |  |
| PEL                    | Long-term value: 5 mg/m <sup>3</sup><br>TWA  |
| REL                    | Long-term value: 5 mg/m <sup>3</sup><br>TWA  |

- **Additional information:**  
Occupational exposure limits to respirable crystalline silica are not expected to be exceeded during normal, foreseeable conditions of fresh product use, as recommended by GRACE. Exposure to

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respirable dust and respirable crystalline silica should be monitored and controlled during other conditions.

Valid lists at time of creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

· **Breathing equipment:**

Use suitable respiratory protective device in case of insufficient ventilation. As appropriate for the employee exposure, use a NIOSH approved respirator and cartridge.

Use NIOSH-approved equipment with APF = 10 or better when dust is present.

· **Protection of hands:**



Protective gloves

Wear gloves for the protection against mechanical hazards.

Use gloves of stable material (e.g. Nitrile)

· **Material of gloves**

Butyl rubber, BR

Nitrile rubber, NBR

· **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR

· **Eye protection:**



Safety glasses

· **Body protection:** Protective work clothing

**9 Physical and chemical properties**

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

**Form:** Powder

**Color:** Beige

· **Odor:** Odorless

· **Odor threshold:** Not available.

· **pH-value at 20 °C (68 °F):** 5.0

· **Change in condition**

**Melting point/Melting range:** >400 °C (>752 °F)  
(zeolite)

**Boiling point/Boiling range:** >2000 °C (>3,632 °F)  
(zeolite)

· **Conditions of flammability**

**Flash point:** Not available.

· **Flammability (solid, gaseous):** Product is not flammable.

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|   |  |
|---|--|
| · <b>Ignition temperature:</b>                  | Not available.   |
| · <b>Decomposition temperature:</b>             | >400 °C (>752 °F)<br>(zeolite)                         |
| · <b>Auto igniting:</b>                         | Product is not self-igniting.                          |
| · <b>Danger of explosion:</b>                   | Product does not present an explosion hazard.          |
| · <b>Explosion limits:</b>                      |  |
| <b>Lower:</b>                                   | - Vol %  |
| <b>Upper:</b>                                   | - Vol %  |
| · <b>Vapor pressure at 20 °C (68 °F):</b>       | - hPa  |
| · <b>Density at 20 °C (68 °F):</b>              | >2.1 g/cm <sup>3</sup> (>17.5245 lbs/gal)<br>(zeolite) |
| · <b>Bulk density at 20 °C (68 °F):</b>         | >400 kg/m <sup>3</sup><br>(zeolite)                    |
| · <b>Vapor density</b>                          | Not applicable.  |
| · <b>Evaporation rate</b>                       | Not applicable.  |
| · <b>Solubility in / Miscibility with</b>       |  |
| <b>Water at 20 °C (68 °F):</b>                  | <0.11 g/l (OECD 105)                                   |
| · <b>Coefficient of water/oil distribution:</b> | Not available.   |
| · <b>Viscosity:</b>                             |  |
| <b>Dynamic at 20 °C (68 °F):</b>                | - mPas   |
| · <b>Other information</b>                      | No further relevant information available.             |

**10 Stability and reactivity**

- **Reactivity** No further relevant information available.
- **Chemical stability** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid**  
In case of thermal decomposition caused by smouldering and incomplete combustion toxic fumes may be developed.
- **Incompatible materials:** Protect from contamination.
- **Hazardous decomposition products:** Metal oxide smoke

**11 Toxicological information**

- **Information on the likely routes of exposure**
- **Delayed and immediate effects and chronic effects from short or long term exposure**
- **Information on toxicological effects**
- **Acute toxicity:**

|   |            |  |
|---|------------|--|
| · <b>LD/LC50 values that are relevant for classification:</b> |            |  |
| <b>92704-41-1 Kaolin, calcined</b>                            |            |  |
| Oral  | LD50       | >5,000 mg/kg (rat) (EPA OPP 81-1)<br>comparable material |
| Dermal  | LD50       | >5,000 mg/kg (rat) (EPA OPP 81-2)<br>comparable material |
| Inhalative  | LC50 (4 h) | >2.07 mg/l (rat) (EPA OPP 81-3)                          |
| <b>1318-02-1 zeolites</b>                                     |            |  |
| Oral  | LD50       | >5,110 mg/kg (rat) (OECD 401)                            |

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|   |            |  |
|---|------------|--|
| Dermal  | LD50       | >5,000 mg/kg (rabbit) (OECD 402)   |
| Inhalative  | LC0        | >3,350 mg/m <sup>3</sup> /4h (rat)<br>IUCLID Dataset 18-Feb-2000   |
| <b>7631-86-9 amorphous silicon dioxide, chemically prepared</b> |            |  |
| Oral  | LD50       | >5,000 mg/kg (rat) (OECD 401)  |
| Dermal  | LD50       | >5,000 mg/kg (rabbit) (no guidance available)  |
| Inhalative  | LC0        | >140->2,000 mg/m <sup>3</sup> /4h (rat) (OCED 403)<br>Maximum attainable concentration, mortality does not appear. |
| <b>1344-28-1 Aluminium oxide (non-fibrous forms)</b>            |            |  |
| Oral  | LD50       | >10,000 mg/kg (rat) (OECD 401)   |
| Inhalative  | LC0        | >2.3 mg/l/4h (rat) (OECD 403)<br>ECHA 2019   |
|   | LC50 (4h)  | 8.22 mg/l (rat) (OECD 403)<br>ECHA 2019  |
|   | LC50 (4 h) | >2.3 mg/l (rat) (OECD 403)   |
| <b>1312-81-8 lanthanum oxide</b>                                |            |  |
| Oral  | LD50       | >10,000 mg/kg (rat) (OECD 401)   |
| Dermal  | LD50       | >2,000 mg/kg (rabbit) (CFR 49 Part 173)<br>comparable substance  |
| Inhalative  | LC0        | >5.3 mg/l/4h (rat) (OECD 403)<br>ECHA 2011   |

· **Primary irritant effect:**

· **on the skin:**

|   |    |   |
|---|----|---|
| <b>92704-41-1 Kaolin, calcined</b>                              |    |   |
| Irritation of skin  | IS | 0 (rabbit) (OECD 404)<br>comparable substance |
| <b>1318-02-1 zeolites</b>                                       |    |   |
| Irritation of skin  | IS | 0 (rabbit) (OECD 404)                         |
| <b>7631-86-9 amorphous silicon dioxide, chemically prepared</b> |    |   |
| Irritation of skin  | IS | 0 (rabbit) (OECD 404)                         |
| <b>1344-28-1 Aluminium oxide (non-fibrous forms)</b>            |    |   |
| Irritation of skin  | IS | <160 (rabbit) (OECD 404)                      |
| <b>1312-81-8 lanthanum oxide</b>                                |    |   |
| Irritation of skin  | IS | (rabbit)<br>not irritating<br>ECHA 2011       |

· **on the eye:**

|   |    |   |
|---|----|---|
| <b>92704-41-1 Kaolin, calcined</b>                              |    |   |
| Irritation of eyes  | IS | <0.33 (rabbit) (EPA OPP 870.2400)<br>comparable substance |
| <b>1318-02-1 zeolites</b>                                       |    |   |
| Irritation of eyes  | IS | 0.7-1.3 (rabbit) (OECD 405)<br>Corneal opacity            |
| <b>7631-86-9 amorphous silicon dioxide, chemically prepared</b> |    |   |
| Irritation of eyes  | IS | 0 (rabbit) (OECD 405)                                     |
| <b>1344-28-1 Aluminium oxide (non-fibrous forms)</b>            |    |   |
| Irritation of eyes  | IS | 0 (rabbit)  |

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**1312-81-8 lanthanum oxide**

|                    |    |                                   |
|--------------------|----|-----------------------------------|
| Irritation of eyes | IS | (rabbit)<br>slightly<br>ECHA 2011 |
|--------------------|----|-----------------------------------|

- **Respiratory sensitization** No further relevant information available.

- **Skin sensitization**

**92704-41-1 Kaolin, calcined**

|               |    |  |
|---------------|----|--|
| Sensitization | SI | <0.72 (mouse) (OECD 429)<br>highest concentration: 25%<br>comparable substance |
|---------------|----|--|

**1344-28-1 Aluminium oxide (non-fibrous forms)**

|               |    |                |
|---------------|----|----------------|
| Sensitization | SI | 0 (guinea pig) |
|---------------|----|----------------|

**1312-81-8 lanthanum oxide**

|               |    |   |
|---------------|----|---|
| Sensitization | SI | (guinea pig) (EU Method B.6)<br>not sensitsing<br>ECHA 2011 |
|---------------|----|---|

- **Additional toxicological information:**

WARNING. Contains a substance known to the State of California to cause cancer.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

|           |  |   |
|-----------|--|---|
| 1318-02-1 | zeolites                                       | 3 |
| 7631-86-9 | amorphous silicon dioxide, chemically prepared | 3 |

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

- **Repeated dose toxicity**

**1318-02-1 zeolites**

|      |              |   |
|------|--------------|---|
| Oral | NOAEL (90 d) | 250-300 mg/kg bw/day (rat)<br>subchronic oral repeated dose |
|------|--------------|---|

**7631-86-9 amorphous silicon dioxide, chemically prepared**

|            |              |                                      |
|------------|--------------|--------------------------------------|
| Oral       | NOAEL (90 d) | 9,000 mg/kg bw/day (rat) (OECD 408)  |
| Inhalative | NOAEC (90 d) | 1 mg/m <sup>3</sup> (rat) (OECD 413) |

**1344-28-1 Aluminium oxide (non-fibrous forms)**

|            |              |  |
|------------|--------------|--|
| Oral       | NOAEL (90 d) | 30 mg/kg bw/day (rat) (OECD 426/452)<br>comparable substance |
| Inhalative | NOAEC (90 d) | 70 mg/m <sup>3</sup> (rat) (OECD 413)                        |

- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**

- **Carcinogenicity**

**1318-02-1 zeolites**

|      |       |                  |
|------|-------|------------------|
| Oral | NOAEL | ≥1,000 ppm (rat) |
|------|-------|------------------|

- **Mutagenicity**

**92704-41-1 Kaolin, calcined**

|           |   |
|-----------|---|
| AMES Test | >0.5 mg/plate (Salmonella typhimurium) (OECD 471)<br>negative with and without metabolic activation<br>comparable substance |
|-----------|---|

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**1318-02-1 zeolites**

|      |                   |  |
|------|-------------------|--|
| Oral | Micronucleus-Test | 5,000 mg/kg bw (mouse) (OECD 474)<br>Genotoxicity: negative (male/female)  |
|      | AMES Test         | >0.1 mg/plate (Salmonella typhimurium) (OECD 471)<br>negative with and without metabolic activation  |
|      | HPRT Test         | >0.08 mg/ml (L5178Y) (OECD 476)<br>no genotoxicity;<br>cytotoxicity: >0,02 mg/ml without metabolic activation; >0,08 mg/ml with metabolic activation |

**7631-86-9 amorphous silicon dioxide, chemically prepared**

|  |           |   |
|--|-----------|---|
|  | AMES Test | >5 mg/plate (in-vitro) (OECD 471)<br>negative, with and without metabolic activation<br>ECHA 2012 |
|--|-----------|---|

**1344-28-1 Aluminium oxide (non-fibrous forms)**

|  |           |   |
|--|-----------|---|
|  | AMES Test | >5 mg/plate (Salmonella typhimurium) (OECD 471)<br>comparable substance<br>negative with and without metabolic activation |
|--|-----------|---|

**1312-81-8 lanthanum oxide**

|  |           |   |
|--|-----------|---|
|  | AMES Test | >5 mg/plate (Salmonella typhimurium) (OECD 471)<br>negative with and without metabolic activation |
|--|-----------|---|

**· Reproductive toxicity**

**1318-02-1 zeolites**

|      |                           |   |
|------|---------------------------|---|
| Oral | NOAEL (maternal toxicity) | ≥1,600 mg/kg bw/day (rat) (OECD 414)<br>≥1,600 mg/kg bw/day (rabbit) (OECD 414) |
|      | NOAEL (teratogenicity)    | ≥1,600 mg/kg bw/day (rat) (OECD 414)<br>≥1,600 mg/kg bw/day (rabbit) (OECD 414) |

**7631-86-9 amorphous silicon dioxide, chemically prepared**

|      |                           |                                     |
|------|---------------------------|-------------------------------------|
| Oral | NOAEL (maternal toxicity) | 1,350 mg/kg bw/day (rat) (OECD 414) |
|      | NOAEL (teratogenicity)    | 1,350 mg/kg bw/day (rat) (OECD 414) |

**1344-28-1 Aluminium oxide (non-fibrous forms)**

|      |                           |  |
|------|---------------------------|--|
| Oral | NOAEL (maternal toxicity) | >90 mg/kg bw/day (rat) (OECD 422)<br>comparable substance  |
|      | NOAEL (teratogenicity)    | >266 mg/kg bw/day (rat) (OECD 414)<br>comparable substance |

**· Specific target organ toxicity (single exposure)**

**1344-28-1 Aluminium oxide (non-fibrous forms)**

|      |   |   |
|------|---|---|
| Oral | C | >2,000 mg/kg bw (rat)<br>nothing to report in observed organs |
|------|---|---|

**1312-81-8 lanthanum oxide**

|      |   |   |
|------|---|---|
| Oral | C | >2,000 mg/kg bw (rat)<br>nothing to report in observed organs |
|------|---|---|

**· Specific target organ toxicity (repeated exposure)**

**1344-28-1 Aluminium oxide (non-fibrous forms)**

|      |   |   |
|------|---|---|
| Oral | C | >100 mg/kg bw (rat)<br>nothing to report in observed organs |
|------|---|---|

**1312-81-8 lanthanum oxide**

|      |   |   |
|------|---|---|
| Oral | C | >100 mg/kg bw (rat)<br>nothing to report in observed organs<br>comparable substance |
|------|---|---|

Trade name: **FCC MIDAS® -0926**

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**12 Ecological information**

## · Toxicity

## · Aquatic toxicity:

## · Fish toxicity

**92704-41-1 Kaolin, calcined**

|             |   |
|-------------|---|
| LC50 (96 h) | ≥100 mg/l (zebra fish) (OECD 203)<br>comparable substance |
|-------------|---|

**1318-02-1 zeolites**

|             |  |
|-------------|--|
| LC50 (96 h) | >680 mg/l (Pimephales promelas) (EPA 660/3-75/009) |
|-------------|--|

**7631-86-9 amorphous silicon dioxide, chemically prepared**

|                     |                                     |
|---------------------|-------------------------------------|
| LC0 (96 h) (static) | 10,000 mg/l (zebra fish) (OECD 203) |
|---------------------|-------------------------------------|

**1344-28-1 Aluminium oxide (non-fibrous forms)**

|             |   |
|-------------|---|
| LC50 (96 h) | >218.64 mg/l (Pimephales promelas) (ASTM 2000 (E729-96))<br>comp. substance |
| NOEC (96 h) | >72 mg/l (Salmo trutta) (OECD 203)  |

**1312-81-8 lanthanum oxide**

|             |   |
|-------------|---|
| LC50 (96 h) | >100 mg/l (Brachydanio rerio) (OECD 203)<br>ECHA 2011 |
|-------------|---|

## · Water flea toxicity

**92704-41-1 Kaolin, calcined**

|           |  |
|-----------|--|
| EC0 (48h) | >100 mg/l (Daphnia magna) (OECD 202)<br>comparable substance |
|-----------|--|

**1318-02-1 zeolites**

|             |                                       |
|-------------|---------------------------------------|
| EC50 (24 h) | 2,808 mg/l (Daphnia magna) (OECD 202) |
|-------------|---------------------------------------|

**7631-86-9 amorphous silicon dioxide, chemically prepared**

|             |  |
|-------------|--|
| EC50 (24 h) | >1,000 mg/l (Daphnia magna) (OECD 202) |
|-------------|--|

**1344-28-1 Aluminium oxide (non-fibrous forms)**

|             |                                     |
|-------------|-------------------------------------|
| NOEC (96 h) | >71 mg/l (Daphnia magna) (OECD 202) |
|-------------|-------------------------------------|

**1312-81-8 lanthanum oxide**

|             |   |
|-------------|---|
| EC50 (48 h) | >100 mg/l (Daphnia magna) (OECD 202)<br>ECHA 2011 |
|-------------|---|

## · Algae toxicity

**92704-41-1 Kaolin, calcined**

|             |  |
|-------------|--|
| EC50 (72 h) | >100 mg/l (Scenedesmus subspicatus) (OECD 201)<br>comparable substance |
|-------------|--|

**1318-02-1 zeolites**

|            |  |
|------------|--|
| EC50 (96h) | >328 mg/l (Scenedesmus subspicatus) (OECD 201) |
|------------|--|

**7631-86-9 amorphous silicon dioxide, chemically prepared**

|             |   |
|-------------|---|
| EC50 (72 h) | >10,000 mg/l (Scenedesmus subspicatus) (OECD 201)<br>comparable substance |
|-------------|---|

**1344-28-1 Aluminium oxide (non-fibrous forms)**

|             |   |
|-------------|---|
| NOEC (72 h) | >52 mg/l (Selenastrum capricornutum) (OECD 201) |
|-------------|---|

**1312-81-8 lanthanum oxide**

|             |  |
|-------------|--|
| EC50 (72 h) | 16 mg/l (Scenedesmus subspicatus) (OECD 201)<br>comparable substance |
|-------------|--|

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· **Bacterial toxicity**

**1318-02-1 zeolites**

EC50 (16h) | 950 mg/l (Pseudomonas putida) (DIN 38412/8)

- **Persistence and degradability** No further relevant information available.
- **Other information:**  
By the insolubility in water there is a separation at every filtration and sedimentation process. The product is chemically and biologically inert.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Do not allow product to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

· **Recommendation:**

Disposal must be made according to official regulations.

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State/provincial and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state/provincial and local requirements.

· **Waste disposal key:**

Reworking of the Equilibrium Fluid Catalyst is possible. For details contact our local representative.

**14 Transport information**

· **UN-Number**

· **DOT, ADR, ADN, IMDG, IATA** None

· **UN proper shipping name**

· **DOT, ADR, ADN, IMDG, IATA** None

· **Transport hazard class(es)**

· **DOT, ADR, ADN, IMDG, IATA**  
· **Class** None

· **Packing group**

· **DOT, ADR, IMDG, IATA** None

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

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· **Transport/Additional information:** Not dangerous according to the above specifications.  
GRACE recommendation for air transport: Cargo aircraft only.

**15 Regulatory information**

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **SARA**

· **SARA 302/304**

None of the ingredients is listed.

· **SARA 313**

1344-28-1 Aluminium oxide (non-fibrous forms)

· **SARA 311/312** Delayed (Chronic) Health Hazard.

· **TSCA (Toxic Substances Control Act):**

Catalysts are considered for TSCA purposes to be mixtures of the oxides related to the manufacturing process.

EPA has defined zeolites as complex chemical products consisting of silica (SiO<sub>2</sub>) and alumina (Al<sub>2</sub>O<sub>3</sub>), in various proportions, plus metallic oxides and certain cations. Zeolites are considered for TSCA purposes to be statutory mixtures of the substances used to manufacture them.

92704-41-1 Kaolin, calcined

7631-86-9 amorphous silicon dioxide, chemically prepared

1344-28-1 Aluminium oxide (non-fibrous forms)

1312-81-8 lanthanum oxide

Silica, crystalline (non respirable form)

Silica, crystalline (airborne particles of respirable size)

· **Proposition 65**

· **Chemicals known to cause cancer:**

Silica, crystalline (airborne particles of respirable size)

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

1344-28-1 Aluminium oxide (non-fibrous forms)

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **Canadian DSL**

Zeolites are considered for DSL purposes to be mixtures of the substances used to manufacture them.

The following composition details are for information only.

92704-41-1 Kaolin, calcined

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|           |   |
|-----------|---|
| 7631-86-9 | amorphous silicon dioxide, chemically prepared              |
| 1344-28-1 | Aluminium oxide (non-fibrous forms)                         |
| 1312-81-8 | lanthanum oxide   |
|           | Silica, crystalline (non respirable form)                   |
|           | Silica, crystalline (airborne particles of respirable size) |

- **Canadian NDSL** Not available.

- **European EINECS**

All ingredients are listed or exempted from listing.

- **Philippines Inventory of Chemicals and Chemical Substances PICCS**

All ingredients are listed or exempted from listing.

- **Inventory of the Existing Chemical Substances manufactured or imported in China IECSC**

All ingredients are listed.

- **Australian Inventory of Chemical Substances AICS**

All ingredients are listed or exempted from listing.

- **Existing and New Chemical Substance List ENCS**

|            |   |       |
|------------|---|-------|
| 92704-41-1 | Kaolin, calcined  | 1-26  |
| 1318-02-1  | zeolites  | 1-26  |
| 7631-86-9  | amorphous silicon dioxide, chemically prepared              | 1-548 |
| 1344-28-1  | Aluminium oxide (non-fibrous forms)                         | 1-23  |
| 1312-81-8  | lanthanum oxide   | 1-757 |
|            | Silica, crystalline (non respirable form)                   |       |
|            | Silica, crystalline (airborne particles of respirable size) |       |

- **Korean Existing Chemical Inventory KECI**

|            |   |          |
|------------|---|----------|
| 92704-41-1 | Kaolin, calcined  | KE-21773 |
| 1318-02-1  | zeolites  | KE-35511 |
| 7631-86-9  | amorphous silicon dioxide, chemically prepared              | KE-31032 |
| 1344-28-1  | Aluminium oxide (non-fibrous forms)                         | KE-01012 |
| 1312-81-8  | lanthanum oxide   | KE-21836 |
|            | Silica, crystalline (non respirable form)                   | *        |
|            | Silica, crystalline (airborne particles of respirable size) | *        |

- **TCSCA (Taiwan)**

|            |  |                |
|------------|--|----------------|
| 92704-41-1 | Kaolin, calcined                               | EPEP4A01713958 |
| 1318-02-1  | zeolites                                       | EPEP4A01713969 |
| 7631-86-9  | amorphous silicon dioxide, chemically prepared | EPEP4A01648271 |
| 1344-28-1  | Aluminium oxide (non-fibrous forms)            | EPEP4A01713813 |
| 1312-81-8  | lanthanum oxide                                | EPEP4A01713971 |

- **New Zealand Inventory of Chemicals (NZIoC)**

|            |  |
|------------|--|
| 92704-41-1 | Kaolin, calcined                               |
| 1318-02-1  | zeolites                                       |
| 7631-86-9  | amorphous silicon dioxide, chemically prepared |
| 1344-28-1  | Aluminium oxide (non-fibrous forms)            |
| 1312-81-8  | lanthanum oxide                                |

- **GHS label elements** None

- **Hazard pictograms** None

- **Signal word** None

- **Hazard statements** None

- **Precautionary statements**

Do not breathe dust.

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Collect spillage.

Store in accordance with local/regional/national/international regulations.

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Relevant phrases**

H350 May cause cancer.

**Department issuing SDS:** GRACE Safety & Health Department**Other information:**

Handling the used catalyst needs special care. For this please check our separate Safety Data Sheet for Equilibrium Fluid Cracking Catalyst.

The applicable regulations and industrial hygiene standards have to be considered.

**Tarif number** 38151990**Contact:**

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Printing date 05/07/2019

Version: 3.1

Reviewed on 05/06/2019

**Trade name: FCC MIDAS® -0926**

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- **Date of preparation / last revision** 05/07/2019 / 3.0
- **The first date of preparation** 01/23/2014
- **Number of revision times and the latest revision date** 3.1 / 05/06/2019

**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Carc. 1A: Carcinogenicity – Category 1A

- **Others** No further relevant information available.
- \* **Data compared to the previous version altered.**

USA