1. IDENTIFICATION

Product identifier: Activated Alumina
Trade Name: AA-4 / AA-6 / AA-25 / AA-60
Application of the substance / the mixture
Absorbent
Anti-moisture agent
Intermediate
Preparation of catalysts
Drier / Catalyst
Water treatment

Details of the supplier of the safety data sheet
SPX Flow Industrial
4647 S.W. 40th Avenue
Ocala, Florida 34474-5799 USA
1-352-237-1220

Information department: Health, Safety, & Environmental Department
Emergency telephone number: 1-352-237-1220 (Monday – Friday, 8:00 a.m. – 5:00 p.m. EST)

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
The product is not classified according to the Globally Harmonized System (GHS)

Label elements:
GHS label elements: Not applicable.
Hazard pictograms: Not applicable.
Signal word: Not applicable
Hazard statements: Not applicable.

GHS Classification System:
Health Rating: 5 – Minimal Hazard
Flammability Rating: 5 – Minimal Hazard
Reactivity Rating: 5 – Minimal Hazard
Contact Rating: 5 – Minimal Hazard

Other hazards:
Results of PBT and vPvB Assessment:
PBT: Not applicable.
vPvB: Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical characterization: Mixtures

Dangerous Components:
1344-28-1 Aluminum Oxide (Al₂O₃) 94-100%

Non-Dangerous Components:
7732-18-5 Water, distilled, conductivity or of similar purity ≤ 6%
4. FIRST AID MEASURES

**Description of first aid measures:**

**General Information:** No special measures required.

**After Inhalation:** Supply fresh air. Call a physician in case of complaints.

**After Skin Contact:** Generally the product does not irritate the skin.

**After Eye Contact:** Rinse opened eye for several minutes under running water.

**After Swallowing:** If symptoms persist consult doctor.

**Information to Physician:**

*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:**

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards arising from the substance or mixture:** No further relevant information available.

**Advice for Firefighters**

**Required Protective Equipment:** No special measures required.

6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Not required.

**Environmental precautions:** No special measures required.

**Methods and material for containment and cleaning up:** Pick up mechanically.

**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.

7. HANDLING AND STORAGE

**Handling:**

**Precautions for safe handling:** No special measures required.

**Information for Protection against Explosions and Fires:** No special measures required.

**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:** Not required.

**Further Information about Storage Conditions:** None

**Specific End Use(s):** No further relevant information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Additional Information for Design of Technical Systems:** No further data; see Section 7.

**Control Parameters**

**Components with Limit Values that Require Monitoring at the Workplace:**

1344-28-1 aluminum oxide (non-fibrous)

<table>
<thead>
<tr>
<th>Limit Value</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL Long-term</td>
<td>15 mg/m³</td>
</tr>
<tr>
<td>REL Long-term</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>TLV Long-term</td>
<td>1 mg/m³</td>
</tr>
</tbody>
</table>

**Additional information:** The lists that were valid during the creation were used as basis.
Exposure Controls

Personal Protective Equipment:

General Protective and Hygienic Measures:
The usual precautionary methods for handling chemicals should be followed.

Breathing Equipment:
Suitable respiratory protective device recommended. Not required.

Hand protection: Wear protective gloves.

Material of Gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

General Information
Appearance:
- Form: Solid
- Color: White
- Odor: Odorless
- Odor Threshold: Not Determined
- pH-value: Not Applicable

Change in condition
- Boiling Point/Boiling Range: Not Determined
- Melting Point/Melting Range: 2050°C (3722°F)
- Flash Point: Not Applicable.
- Flammability (Solid or Gaseous): Not Determined
- Ignition Temperature:
  - Decomposition Temperature: Not Determined.
- Auto igniting: Product is not self-igniting.
- Danger of Explosion: Product does not present an explosion hazard.

Explosion Limits:
- Lower: Not Determined.
- Upper: Not Determined.

Vapor Pressure: Not Applicable.

Density at 20°C (68°F):
- 0.6 g/cm³ (5.007 lbs./gal)

Bulk Density at 20°C (68°F):
- 700 kg/m³

Relative Density:
- Not Determined.

Vapor Density (air = 1):
- Not Applicable

Evaporation Rate: Not Applicable

Solubility in / Miscibility with Water:
- Insoluble.

Partition Coefficient (N-octanol/water):
- Not Determined.

Viscosity:
- Dynamic: Not Applicable.
- Kinematic: Not Applicable.

Solvent Content:
- Organic Solvents: 0.0%
- Water: 6.0%

Solids Content: 100%

Other Information: No further relevant information available.
10. STABILITY AND REACTIVITY

Reactivity
Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
Possibility of hazardous reactions: No dangerous reactions known.
Conditions to Avoid: No further information available.
Incompatible Materials: No further information available.
Hazardous decomposition products: No dangerous decomposition products known.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute Toxicity:
Primary Irritant Effect:
Skin contact: No irritant effect.
Eye contact: No irritating effect.
Sensitization: No sensitizing effects known.

Additional Toxicological Information:
The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications the product does not have any harmful effects according to our experience and the information provided to us.

Carcinogenic categories
IARC (International Agency for Research on Cancer): None of the ingredients is listed.
NTP (National Toxicology Program): None of the ingredients is listed.
OSHA-Ca (Occupational Safety & Health Administration): None of the ingredients is listed.

12. ECOLOGICAL INFORMATION

Toxicity:
Aquatic Toxicity: No further relevant information available.
Persistence and Degradability: No further relevant information available.
Behavior in Environmental Systems:
Bio-accumulative Potential: No further relevant information available.
Mobility in Soil: No further relevant information available.

Additional Ecological Information:
General Notes: Generally not hazardous for water.

Results of PBT and vPvB assessment
PBT: Not applicable
vPvB: Not applicable

Other Adverse Effects: No further relevant information available.

13. DISPOSAL CONSIDERATION

Waste Treatment Methods:
Recommendation: Smaller quantities can be disposed of with household waste.

Uncleaned packaging:
Recommendation: Disposal must be made according to official regulations.
14. TRANSPORT INFORMATION

| UN-Number: | DOT, ADR, ADN, IMDG, IATA: | Not applicable. |
| UN proper shipping number: | DOT, ADR, ADN, IMDG, IATA: | Not applicable. |
| Transport hazard class(es): | DOT, ADR, ADN, IMDG, IATA Class: | Not applicable. |
| Packing Group: | DOT, ADR, ADN, IMDG, IATA: | Not applicable. |
| Environmental hazards: | Marine pollutant: | No. |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: | Not applicable. |
| UN “Model Regulation”: | - |

15. REGULATORY INFORMATION

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

SARA:
Section 355 (Extremely Hazardous Substances): None of the ingredients is listed.
Section 313 (Specific Toxic Chemical Listings): 1344-28-1, Aluminum Oxide (non-fibrous).

TSCA (Toxic Substances Control Act): All ingredients are listed.

Proposition 65:
Chemicals Known to Cause Cancer: None of the ingredients is listed.
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 ACGIH): 1344-28-1 aluminum oxide: A4
NIOSH-Ca (National Institute for Occupational Safety and Health): None of the ingredients is listed.

GHS label elements: Not applicable.
Hazard pictograms: Not applicable.
Signal word: Not applicable
Hazard statements: Not applicable.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

Preparation Date: May 3, 2016
Revision Number: 1
SDS Status: Changes in sections 1, 2, and 9.
Supersedes: 05/19/15.

Other Classifications:

HMIS (U.S.A.)
- Health Hazard: 1
- Fire Hazard: 0
- Reactivity: 0
- Personal Protection: E

National Fire Protection Association (U.S.A.)
- Health: 0
- Flammability: 0
- Reactivity: 0

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.
ATTENTION: Plant Manager/Safety Director:

This SDS supersedes all prior data sheets received for this product. We urge you to study it carefully. This is provided with each container as our way of communicating Health, Safety, and Environmental Protection Information to our customers.

This information is provided to ensure safe handling and storage of our products in accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200. The information contained in this SDS must be passed on to all employees in your firm that handle and/or become involved in the implementation or control of operations involving use of the product. We strongly urge you to forward this SDS to all parties that have a need to know the information contained herein!

LEGEND:

ACGIH  American Conference of Government Industrial Hygienists  m  meter
AICS  Australian Inventory of Chemical Substances  cm  centimeter
CAS  Chemical Abstract Services  mm  millimeter
CERCLA  Comprehensive Environmental Response, Compensation, and Liability Act  in  inch
CFR  Code of Federal Regulations  g, gm  gram
CPR  Cardiac-Pulmonary Resuscitation  kg  kilogram
DOT  Department of Transportation  lb  pound
DSL  Domestic Substances List (Canada)  µg  microgram
EINECS  European Inventory of Existing Commercial Chemical Substances
ENCS  Japan - Existing and New Chemical Substances
EWA  European Waste Catalog
EPA  Environmental Protection Agency  ppm  parts per million
IARC  International Agency for Research on Cancer  ft  feet
LC  Lethal Concentration
LD  Lethal Dose
MAK  Maximum Workplace Concentration (Germany) "maximale Arbeitsplatz-Konzentration"
NDDSL  Non-Domestic Substances List (Canada)
NIOH  National Institute of Occupational Safety and Health
NTP  National Toxicology Program
OEL  Occupational Exposure Limit
OSHA  Occupational Safety and Health Administration
PEL  Permissible Exposure Limit
PIN  Product Identification Number
RCRA  Resource Conservation and Recovery Act
SARA  Superfund Amendments and Reauthorization Act
STEL  Short Term Exposure Limit
TCLP  Toxic Chemicals Leachate Program
TDG  Transportation of Dangerous Goods
TLV  Threshold Limit Value
TSCA  Toxic Substances Control Act
TWA  Time Weighted Average

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