

**Martoxid® KMS-96; Martoxid® KMS-98**

Globally Harmonized System (GHS)

Issue Date: 28/May/2019

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Revision Number: 1.3

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier****Product Name:** Martoxid® KMS-96; Martoxid® KMS-98**Aluminum oxide****CAS Number** 1344-28-1**Weight-%** >90**1.2. Relevant identified uses of the substance or mixture and uses advised against****Recommended Use** Raw material for ceramics, refractory products, etc.**Uses advised against** None known.**1.3. Details of the supplier of the safety data sheet****Company:** MARTINSWERK GmbH  
Kölner Strasse 110  
50127 Bergheim  
Germany  
Tel. : +49-2271-90.22.78  
Fax. : +49-2271-90.27.17**Internet** www.hubermaterials.com**E-mail** hubermaterials@huber.com**1.4. Emergency telephone number** CHEMTREC: +1 800 424 9300 or International +1 703 527 3887**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GHS Classification** Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)**Hazards identification****Physical Hazard** Not classified**Health Hazards** Not classified

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**Environmental Hazard** Not classified

### 2.2. Label elements

**Symbols/Pictograms** None

**Signal Word** None

**Hazard Statements** None

### Precautionary Statements

**Prevention** Employ good industrial hygiene practice  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dust  
Wear protective gloves/protective clothing/eye protection/face protection

**Response** IF ON SKIN: Wash with plenty of soap and water

**Storage** Store away from incompatible materials.

**Disposal** Dispose of contents/containers in accordance with local regulations.

**Additional Information:** None.

**2.3. Other hazards** No information available.

## SECTION 3: Composition/information on ingredients

Chemical Name	CAS Number	TSCA: United States	EC No	REACH registratio n number	GHS Classificatio n	Weight-%
Aluminum oxide	1344-28-1	Y	215-691-6	01-211952 9248-35-xx xx. 01-211952 9248-35-0 017.	Not classified.	>90

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**General Advice** When in doubt or if symptoms are observed, get medical advice. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**Eye Contact** In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

**Skin Contact** Wash with plenty of soap and water.

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<b>Ingestion</b>	Rinse mouth thoroughly with water.
<b>Inhalation</b>	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
<b>Aspiration hazard</b>	Not an expected route of exposure.
<b>4.2. Most important symptoms and effects, both acute and delayed</b>	Inhalation of dust may cause irritation of the respiratory system. Eye irritation.
<b>4.3. Indication of any immediate medical attention and special treatment needed</b>	Treatment should be symptomatic and supportive.

### SECTION 5: Firefighting measures

<b>5.1. Extinguishing media</b>	
<b>Suitable Extinguishing Media</b>	Not combustible. Use extinguishing agent suitable for type of surrounding fire. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO2).
<b>Unsuitable Extinguishing Media</b>	None known.
<b>Flammable Properties</b>	None known.
<b>5.2. Special hazards arising from the substance or mixture</b>	None known.
<b>5.3. Advice for firefighters</b>	
<b>Special protective equipment for firefighters</b>	Wear a self-contained breathing apparatus and chemical protective clothing.
<b>Fire-fighting measures</b>	In case of fire and/or explosion do not breathe fumes.

### SECTION 6: Accidental release measures

<b>6.1. Personal precautions, protective equipment and emergency procedures</b>	Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid dust formation. Keep unauthorized personnel away.
<b>For non-emergency personnel</b>	Keep unauthorized personnel away.
<b>For emergency responders</b>	Keep unauthorized personnel away. Use personal protection recommended in Section 8.

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- 6.2. Environmental precautions** Avoid runoff to waterways and sewers.
- 6.3. Methods and material for containment and cleaning up** Methods for Containment : Prevent further leakage or spillage if safe to do so  
Methods for Clean-up : Sweep up and shovel into suitable containers for disposal
- 6.4. Reference to other sections** Section 8: Exposure controls and personal protection. See Section 13 for additional waste treatment information.

### SECTION 7: Handling and storage

- 7.1. Precautions for safe handling** Minimize dust generation and accumulation. Provide local exhaust ventilation. Handle in accordance with good industrial hygiene and safety practice.
- 7.2. Conditions for safe storage, including any incompatibilities** Store away from incompatible materials. Keep container tightly closed and dry.
- 7.3. Specific end use(s)** No information available.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Occupational exposure limits

##### Aluminum oxide

India	TWA: Not established
ACGIH	TWA: 10 mg/m <sup>3</sup>
OSHA	TWA: 15 mg/m <sup>3</sup> total dust
	TWA: 5 mg/m <sup>3</sup> respirable fraction
	(vacated) TWA: 10 mg/m <sup>3</sup> total dust
	(vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction

- Biological Limit Values:** None
- Recommended monitoring procedures** Refer also to national guidance documents for information on currently recommended monitoring procedures
- Derived No Effect Level (DNEL)** No information available
- Predicted No Effect Concentration (PNEC)** No information available

#### 8.2. Exposure controls

- Engineering Measures** Do not handle until all safety precautions have been read and understood  
Ensure adequate ventilation, especially in confined areas

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Provide a good standard of controlled ventilation (10 to 15 air changes per hour)  
Use exhaust ventilation to keep airborne concentrations below exposure limits  
In case of insufficient ventilation, wear suitable respiratory equipment

## Personal protective equipment

<b>Eye/Face Protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin and Body Protection</b>	Wear suitable protective clothing.
<b>Hand Protection</b>	Wear suitable gloves.
<b>Respiratory Protection</b>	In case of inadequate ventilation wear respiratory protection.

**Thermal hazards** None known.

**Hygiene Measures** Follow general hygiene considerations recognized as common good workplace practices. The worker should wash daily at the end of each work shift, and prior to eating, drinking, smoking, etc.

**Environmental Exposure Controls** Dispose of in accordance with local regulations.

## SECTION 9: Physical and chemical properties

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

<b>Physical State</b>	Solid. Powder.
<b>Color</b>	White (Al2O3)
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	No information available
<b>pH:</b>	+/- 9 (10 % / H2O)
<b>Melting Point / Melting Range</b>	Not applicable
<b>Boiling Point</b>	Not applicable
<b>Flash Point:</b>	Not applicable Product/Substance is inorganic Solid
<b>Evaporation Rate</b>	Not applicable
<b>Flammability (solid, gas)</b>	No information available
<b>Vapor Pressure</b>	No information available
<b>Vapor Density</b>	Not applicable
<b>Solubility in other solvents</b>	No information available

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Water Solubility	Insoluble
Partition coefficient	No information available
Explosive Properties	None
Oxidizing Properties	None

## SECTION 10: Stability and reactivity

10.1. Reactivity	No data available
10.2. Chemical stability	Stable under normal conditions
10.3. Possibility of hazardous reactions	None under normal processing
10.4. Conditions to avoid	Incompatible materials. Decomposition Temperature. ∴ Al <sub>2</sub> O <sub>3</sub> . Water.
10.5. Incompatible materials	Strong acids.
10.6. Hazardous decomposition products	None known

## SECTION 11: Toxicological information

**General Information** Users are advised to consider national Occupational Exposure Limits or other equivalent values.

### Information on Likely Routes of Exposure

Inhalation	Do not breathe dust
Skin	Avoid prolonged or repeated contact with skin Contact with dust can cause mechanical irritation or drying of the skin
Eyes	Avoid contact with eyes Dust contact with the eyes can lead to mechanical irritation
Ingestion	Ingestion is not a likely route of exposure
Aspiration hazard	Not an expected route of exposure.

### 11.1. Information on toxicological effects

#### Aluminum oxide

Serious eye damage/eye irritation	Non-irritant : Rabbit
Skin Corrosion/Irritation	Non-irritant : Rabbit
Mutagenicity	in vitro in vivo Based on available data, the classification criteria are not met

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<b>Reproductive Effects</b>	No indication of effects on fertility. No indication of effects on developmental toxicity.
<b>Target Organ Effects</b>	Lungs
<b>Specific target organ toxicity - Single exposure</b>	No information available
<b>Specific target organ toxicity - Repeated exposure</b>	Repeated dose toxicity Inhalation 28-d Rat NOAEL (No observed adverse effect level) 70 mg(Al)/m <sup>3</sup> Repeated dose toxicity 1- Year Rat NOAEL (No observed adverse effect level) >=30 mg Al/kg bw
<b>Acute Toxicity</b>	Mixture Al <sub>2</sub> O <sub>3</sub> Repeated dose toxicity Inhalation 28-d Rat NOAEL (No observed adverse effect level) 70 mg(Al)/m <sup>3</sup> . Target Organs Lungs Respiratory system  Repeated dose toxicity 1- Year Oral Rat NOAEL (No observed adverse effect level) >=30 mg Al/kg bw
<b>Respiratory Sensitization</b>	Based on available data, the classification criteria are not met
<b>Serious eye damage/eye irritation</b>	Non-irritant : Rabbit
<b>Skin Corrosion/Irritation</b>	Non-irritant : Rabbit
<b>Mutagenicity</b>	Based on available data, the classification criteria are not met
<b>Reproductive Effects</b>	Based on available data, the classification criteria are not met.
<b>Reproductive Toxicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
<b>Target Organ Effects</b>	Lungs.
<b>Specific target organ toxicity - Single exposure</b>	No information available.
<b>Specific target organ toxicity - Repeated exposure</b>	No information available.

## SECTION 12: Ecological information

### 12.1

#### 12.1.1. Ecotoxicity

Very low solubility. Not considered to be harmful to aquatic life.

**Aluminum oxide - 1344-28-1**

**WGK Classification (VwVwS)** 1346. WGK: nwg

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<b>12.2. Persistence and degradability</b>	The methods for determining biodegradability are not applicable to inorganic substances.
<b>12.3. Bioaccumulative potential</b>	Not likely to bioaccumulate.
<b>Partition coefficient</b>	Not available.
<b>Bioconcentration factor (BCF)</b>	No data available.
<b>12.4. Mobility in soil</b>	None.
<b>12.5. Results of PBT and vPvB assessment</b>	This substance does not meet the criteria for classification as PBT or vPvB.
<b>12.6. Other adverse effects</b>	None known

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

<b>Contaminated Packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal Do not reuse container
<b>Waste codes</b>	Waste codes should be assigned by the user based on the application for which the product was used
<b>Disposal Methods</b>	Disposal should be in accordance with applicable regional, national and local laws and regulations

### SECTION 14: Transport information

#### Mode of Transportation (Road, Water, Air, Rail)

<b>DOT</b>	Not regulated
<b>ADR</b>	Not regulated
<b>RID</b>	Not regulated
<b>IATA</b>	Not regulated
<b>IMDG/IMO</b>	Not regulated
<b>ICAO</b>	Not regulated
<b>14.1. UN number</b>	None
<b>14.2. UN proper shipping name</b>	None



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14.3. Transport hazard class(es) None

14.4. Packing group None

14.5. Environmental hazards No

14.6. Special precautions for user Not applicable

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  
Not applicable

## SECTION 15: Regulatory information

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

### Global Inventories

Chemical Name	CAS Number	EC No	REACH registration number	Australia (AICS)	Canada (DSL)	China (IECSC)	Japan	S. Korea (KECL)	Mexico	New Zealand	Philippines (PICCS)	Taiwan	TSCA: United States
Aluminum oxide	1344-28-1	215-691-6	01-211952924-8-35-xxxx 01-211952924-8-35-0017	Y	Y	Y	(1)-23 (ENCS)(IS HL)	KE-01012	Y	Y	Y	Y	Y

#### Legend

X / Y: Complies - / N: Not Listed Exempt

## SECTION 16: Other information

Prepared by Huber Engineered Materials Global Regulatory Affairs  
email: regulatory.affairs@huber.com

Reason for Revision Globally Harmonized System (GHS).

GHS Classification This product is not classified as hazardous according to the UN GHS guideline and labeling is not required

### Labeling

Symbols/Pictograms None

Signal Word None

Hazard Statements None

Training Advice Do not handle until all safety precautions have been read and understood.

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### Abbreviations and acronyms

International Agency for Research on Cancer (IARC)  
International Air Transport Association (IATA)  
International Maritime Dangerous Goods (IMDG)  
International Uniform Chemical Information Database (IUCLID)  
Workplace Hazardous Materials Information System (WHMIS) status and classification  
EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification  
DOT (Department of Transportation)  
OSHA (Occupational Safety and Health Administration of the US Department of Labor)  
TWA - Time-Weighted Average  
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)  
The Classification, Labeling and Packaging of Substances and Mixtures (CLP) Regulation (EC 1272/2008)  
PPE - Personal Protection Equipment  
NIOSH - National Institute for Occupational Safety and Health  
TDG (Transport of Dangerous Goods) Canada  
CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)  
Reportable Quantity (RQ) (RQ/% in mixture)  
STEL - Short Term Exposure Limit  
TLV® - Threshold Limit Value  
Derived No Effect Level (DNEL)  
SVHC: Substances of Very High Concern for Authorization:  
Land transport (ADR/RID)  
Biochemical oxygen demand (BOD)  
Chemical oxygen demand (COD)  
ICAO (air)  
(IMDG) International Maritime Dangerous Goods  
Positive Pressure Self-Contained Breathing Apparatus (SCBA)  
Predicted No Effect Concentration (PNEC)  
Globally Harmonized System (GHS)

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**