

**Martoxid® KMS-96 BO**

Prepared in accordance with GB/T 16483-2008, GB/TGB/T 24774-2009, GB 13690 – 2009, GB/T 17519–2013  
Globally Harmonized System (GHS)

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**Section 1: PRODUCT AND COMPANY IDENTIFICATION**

<b>Product Name:</b>	Martoxid® KMS-96 BO
<b>Chemical Name</b>	Preparation : Al <sub>2</sub> O <sub>3</sub>
<b><u>Aluminum oxide</u></b>	
<b>CAS Number</b>	1344-28-1
<b>Weight-%</b>	>=86
<b>Recommended Use</b>	Raw material for ceramics, refractory products, etc.
<b>Uses advised against</b>	None known
<b>Company:</b>	MARTINSWERK GmbH Kölner Strasse 110 50127 Bergheim Germany Tel. : +49-2271-90.22.78 Fax. : +49-2271-90.27.17
<b>Emergency Telephone</b>	CHEMTREC: 1 800 424 9300 or International +1 703 527 3887
<b>E-mail</b>	hubermaterials@huber.com
<b>Internet</b>	www.hubermaterials.com

**Section 2: HAZARDS IDENTIFICATION**

<b>GHS Classification</b>	Not classified
<b>Physical Hazard</b>	Not classified
<b>Health Hazard</b>	Not classified
<b>Environmental Hazard</b>	Not classified
<b>Label Elements</b>	
<b>Symbols/Pictograms</b>	None
<b>Signal Word</b>	None

**Precautionary Statements**

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**Prevention** Avoid release to the environment  
Observe good industrial hygiene practices.  
Avoid breathing dust.  
Use mechanical ventilation (dilution and local exhaust) to control exposure

**Response** IF ON SKIN: Wash with plenty of soap and water  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

**Spills and Leaks** Collect spillage

**Storage** Store in a dry place

**Disposal** Dispose in accordance with local, state and national regulations

**Additional Information:** None.

## Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	China (IECSC)	China classification	TSCA: United States	REACH registration number	Weight-%
Aluminum oxide	1344-28-1	Y	Not classified	Y	01-2119529248-35-xxxx 01-2119529248-35-0017	>=86

## Section 4: FIRST AID MEASURES

**General Advice** In case of doubt or when symptoms persist, seek medical attention.

**Eye Contact** Hold eyelids apart and flush eyes with a steady, gentle stream of water for several minutes.

**Skin Contact** Wash skin with soap and water

**Inhalation** IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

**Ingestion** Rinse mouth with water. Do not induce vomiting.

**Notes to Physician** Treat symptomatically

**Personal Protective Equipment** Wear suitable protective clothing

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**For First Aid Responders** IF exposed or concerned: Get medical advice/attention

**Expected acute symptoms and delayed symptoms** None known

## Section 5: FIRE FIGHTING MEASURES

**Flammable Properties** None known

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media:** None known

**Specific Hazards Arising from the Chemical** None known

**Unusual fire & explosion hazards:** None

**Protective measures:** Use protective equipment that is appropriate for surrounding materials.

**Protective Equipment and Precautions for Firefighters** Wear self-contained breathing apparatus and protective suit

## Section 6: SPILLAGE, ACCIDENTAL RELEASE MEASURES

**Personal Precautions** Avoid dust formation  
Ensure adequate ventilation  
Use personal protection recommended in Section 8  
Keep unauthorized personnel away

**Environmental Precautions** Avoid runoff to waterways and sewers

**Methods for cleaning up** Pick up mechanically and / or by rinsing with water.  
Avoid dry sweeping and use a sprinkler system or exhaust ventilation to prevent dust formation.

**Other Information:** None known

## Section 7: HANDLING AND STORAGE

**Handling** In case of exposure to environments exceeding the occupational exposure limit, wear a respirator in compliance with national legislation.

**Storage** Keep containers tightly closed in a cool, well-ventilated place

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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**Exposure Limits**

Provide adequate ventilation as well as local exhaust at critical locations

**Aluminum oxide**

China

TWA: 4 mg/m<sup>3</sup> total dust

China

STEL: 8 mg/m<sup>3</sup> total dust

ACGIH

TWA: 10 mg/m<sup>3</sup>

ACGIH TLV

TWA: 1 mg/m<sup>3</sup> respirable fraction

NIOSH

Not established

OSHA

TWA: 15 mg/m<sup>3</sup> total dustTWA: 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**Engineering Measures**

Do not handle until all safety precautions have been read and understood  
Ensure adequate ventilation, especially in confined areas  
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****Eye/Face Protection**

Wear safety goggles with side protection

**Skin and Body Protection**

Wear suitable protective clothing

**Hand Protection**

Impervious gloves

**Respiratory Protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice Wash hands and face before breaks and immediately after handling the product.

**Environmental Exposure Controls**

Dispose of in accordance with local regulations

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties****Appearance:****Physical State**

Solid

Powder

**Color**White (Al<sub>2</sub>O<sub>3</sub>)**Odor**

Odorless

**Odor Threshold**

No information available

**pH:**+/- 9 (10 % / H<sub>2</sub>O)**Melting point / Freezing point**

2000 °C (3632 °F) (1013 hPa)

**Initial boiling point and boiling range**

2980 °C (5396 °F) (1013 hPa)

**Flash Point:**

Not applicable. Product/Substance is inorganic. Solid.

**Evaporation Rate**

Not applicable Melting Point : &gt; 300°C

**Flammability (solid, gas)**

No information available

**Upper flammability limit:**

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<b>Lower flammability limit:</b>	
<b>Vapor Pressure</b>	1 hPa (2158 °C)
<b>Vapor Density</b>	Not applicable
	Melting Point : > 300°C
<b>Relative Density</b>	+/- 3.7 - 3.9
<b>Water Solubility</b>	Insoluble
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	Not applicable : Product/Substance is inorganic
<b>Autoignition Temperature</b>	No information available
<b>Decomposition Temperature</b>	No information available
<b>Dynamic viscosity</b>	Not applicable Solid
<b>Explosive Properties</b>	None
<b>Oxidizing Properties</b>	None

No data available

## Section 10: STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal conditions
<b>Conditions to avoid:</b>	None known
<b>Incompatible materials</b>	Strong acids
<b>Hazardous decomposition products</b>	None under normal processing
<b>Hazardous Reactions</b>	None under normal processing
<b>Hazardous polymerization:</b>	None under normal processing

## Section 11: TOXICOLOGICAL INFORMATION

<b>General Information</b>	Users are advised to consider national Occupational Exposure Limits or other equivalent values.
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### Product Information

#### Information on Likely Routes of Exposure

<b>Eyes</b>	Avoid contact with eyes Dust contact with the eyes can lead to mechanical irritation
<b>Skin</b>	Avoid prolonged or repeated contact with skin Contact with dust can cause mechanical irritation or drying of the skin
<b>Inhalation</b>	Do not breathe dust
<b>Ingestion</b>	Ingestion is not a likely route of exposure

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<b>Aspiration hazard</b>	Not an expected route of exposure.
<b>Symptoms</b>	Low hazard for usual industrial or commercial handling

### 11.1. Information on toxicological effects

#### Aluminum oxide

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

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**Mixture versus substance information** Mixture.

## Section 12: ECOLOGICAL INFORMATION

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

**Persistence/Degradability:** The methods for determining biodegradability are not applicable to inorganic substances.

**Bioaccumulative Potential** Not likely to bioaccumulate.

**Partition coefficient** Not available

**Bioconcentration factor** No data available.

**(BCF)**

**Mobility in soil** None.

**Results of PBT and vPvB assessment** This substance does not meet the criteria for classification as PBT or vPvB.

**Other Adverse Effects** None known

## Section 13: DISPOSAL CONSIDERATIONS

**Waste from Residues/Unused Products** Dispose of in accordance with local regulations

**Contaminated Packaging:** Empty containers should be taken to an approved waste handling site for recycling or disposal.

## Section 14: TRANSPORT INFORMATION

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

**DOT** Not regulated

**ADR** Not regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

**ICAO** Not regulated

**14.1. UN number** None

**14.2. UN proper shipping name** None

**14.3. Transport hazard class(es)** None

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- 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**

<b>Prepared by</b>	Huber Engineered Materials Global Regulatory Affairs email: regulatory.affairs@huber.com
<b>Reason for Revision</b>	GB/T 16483-2008 GB/T 24774-2009 GB 13690 – 2009 GB/T 17519–2013
<b>GHS Classification</b>	Not classified
<b>Physical Hazard</b>	Not classified
<b>Health Hazard</b>	Not classified
<b>Environmental Hazard</b>	Not classified
<b>Label Elements</b>	
<b>Symbols/Pictograms</b>	None
<b>Signal Word</b>	None
<b>Abbreviations and acronyms</b>	Land transport (ADR/RID) Biochemical oxygen demand (BOD) Chemical oxygen demand (COD) Derived No Effect Level (DNEL) Predicted No Effect Concentration (PNEC) DOT (Department of Transportation) ICAO (air) International Air Transport Association (IATA) International Agency for Research on Cancer (IARC) International Maritime Dangerous Goods (IMDG) PPE - Personal Protection Equipment Positive Pressure Self-Contained Breathing Apparatus (SCBA) STEL - Short Term Exposure Limit TLV® - Threshold Limit Value TWA - Time-Weighted Average CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) NIOSH - National Institute for Occupational Safety and Health EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) TDG (Transport of Dangerous Goods) Canada Workplace Hazardous Materials Information System (WHMIS) status and classification

**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