HUBER | MARTINSWERK

Safety Data Sheet

Martoxid® KMS-96; Martoxid® KMS-98

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

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Martoxid® KMS-96; Martoxid® KMS-98

Chemical Name Preparation : Al_2O_3

Aluminum oxide
CAS Number 1344-28-1
Weight-% KMS-96 (93-94%) KMS-98 (95-96%)

Recommended Use Raw material for ceramics, refractory products, etc.

Uses advised against None known

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Section 2: HAZARDS IDENTIFICATION

GHS Classification Not classified

Physical Hazard Not classified

Health Hazard Not classified

Environmental Hazard Not classified

Label Elements

Symbols/Pictograms None

Signal Word None

Precautionary Statements

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	KMS-96 (93-94%) KMS-98 (95-96%)

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

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

Exposure Limits Provide adequate ventilation as well as local exhaustion at critical locations

Aluminum oxide

China	TWA: 4 mg/m³ total dust
China	STEL: 8 mg/m³ total dust
ACGIH	TWA: 10 mg/m³
ACGIH TLV	TWA: 1 mg/m³ respirable fraction
NIOSH	Not established
OSHA	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 10 mg/m³ total dust (vacated) TWA: 5 mg/m³ 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 (Al203)
Odor	Odorless
Odor Threshold	No information available
pH:	+/- 9 (10 % / H2O)
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 : > 300°C
Flammability (solid, gas)	No information available
Upper flammability limit:	

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

Section 10: STABILITY AND REACTIVITY

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

Section 11: TOXICOLOGICAL INFORMATION

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

Product Information

Information on Likely Routes of Exposure

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

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

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
Reproductive Effects	No indication of effects on fertility. No indication of effects on developmental toxicity.
Target Organ Effects	Lungs
Specific target organ toxicity - Single exposure	No information available
Specific target organ toxicity - Repeated exposure	Repeated dose toxicity Inhalation 28-d Rat NOAEL (No observed adverse effect level) 70 mg(Al)/m^3 Repeated dose toxicity 1- Year Rat NOAEL (No observed adverse effect level) >=30 mg Al/kg bw

Acute Toxicity	Mixture Al_2O_3 Repeated dose toxicity Inhalation 28-d Rat NOAEL (No observed adverse effect level) 70 mg(Al)/m^3 . Target Organs Lungs Respiratory system Repeated dose toxicity 1- Year Oral Rat NOAEL (No observed adverse effect level) >=30 mg Al/kg bw
Serious eye damage/eye irritation	Non-irritant : Rabbit
Respiratory Sensitization	Based on available data, the classification criteria are not met
Skin Corrosion/Irritation	Non-irritant : Rabbit
Mutagenicity	Based on available data, the classification criteria are not met.
Reproductive Effects	Based on available data, the classification criteria are not met.
Reproductive Toxicity	Based on available data, the classification criteria are not met.
Carcinogenicity	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
Target Organ Effects	Lungs.
Specific target organ toxicity - Single exposure	No information available.
Specific target organ toxicity - Repeated exposure	No information available.

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 (BCF)	No data available.
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
RID	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
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	01-2119529248-35-xxxx 01-2119529248-35-0017	Y	Y	Y	(1)-23 (ENCS)(ISHL)	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	GB/T 16483-2008 GB/T 24774-2009 GB 13690 – 2009 GB/T 17519–2013
GHS Classification	Not classified
Physical Hazard	Not classified
Health Hazard	Not classified
Environmental Hazard	Not classified
Label Elements	
Symbols/Pictograms	None
Signal Word	None
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