



Martoxid® KMS-96; Martoxid® KMS-98

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006
COMMISSION REGULATION (EU) No. 2020/878

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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

Chemical Name Preparation : Al_2O_3

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

Manufacturer MARTINSWERK GmbH
Kölner Strasse 110
50127 Bergheim
Germany
Tel. : +49-2271-90.22.78
Fax. : +49-2271-90.27.17

Internet www.huberadvancedmaterials.com

Contact E-Mail www.huberadvancedmaterials.com/contact

1.4. Emergency telephone number CHEMTREC: +1 800 424 9300 or International 1+703-527-3887

Poison control center phone number National Anti-Poison Center UK: +44 844 892 0111 (National Poisons Information Service)

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

(CLP) Regulation (EC 1272/2008) Not classified.**Hazards identification****Physical Hazard** Not classified.**Health Hazards** Not classified.**Environmental Hazard** Not classified.

2.2. Label elements

Symbols/Pictograms None**Signal Word** None

Hazard Statements This product is not classified as hazardous according to the UN GHS guideline and labeling is not required
This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Precautionary Statements

Prevention Employ good industrial hygiene practice
Wash hands thoroughly after handling

Response IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
IF ON SKIN: Wash with plenty of soap and water

Storage Keep in a dry place
Store away from incompatible materials

Disposal Disposal should be in accordance with applicable regional, national and local laws and regulations.

Additional Information: None.

2.3. Other hazards

The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration
This product does not contain any known or suspected endocrine disruptors

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SECTION 3: Composition/information on ingredients

3.1. Substance Not applicable

3.2. Mixture Mixture

Chemical Name	CAS NUMBER:	EC No	(CLP) Regulation (EC 1272/2008)	Weight-%
Aluminum oxide	1344-28-1	215-691-6	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.

Inhalation If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

Ingestion Rinse mouth thoroughly with water.

Aspiration hazard Not an expected route of exposure.

Notes to Physician Treat symptomatically.

4.2. Most important symptoms and effects, both acute and delayed Dust contact with the eyes can lead to mechanical irritation. Contact with dust can cause mechanical irritation or drying of the skin.

4.3. Indication of any immediate medical attention and special treatment needed Treatment should be symptomatic and supportive.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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Not combustible. Use extinguishing agent suitable for type of surrounding fire. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable Extinguishing Media

None known.

5.2. Special hazards arising from the substance or mixture

None known.

5.3. Advice for firefighters**Special protective****equipment for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing.

Fire-fighting measures

In case of fire and/or explosion do not breathe fumes.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

For non-emergency personnel

Keep unauthorized personnel away.

For emergency responders

Keep unauthorized personnel away. Use personal protection recommended in Section 8.

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

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7.3. Specific end use(s) No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Aluminum oxide

ACGIH	TWA: 10 mg/m ³
OSHA	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction
NIOSH	Not established
Austria	TWA: 5 mg/m ³ respirable fraction, smoke
Austria	STEL: 10 mg/m ³ respirable fraction, smoke
Belgium	TWA: 1 mg/m ³
Bulgaria	TWA: 1.5MGM3;Respirable fraction. 10.0MGM3;Dust.
Croatia	TWA: 10 mg/m ³ total dust 4 mg/m ³ respirable dust
Czech Republic	TWA: 10.0 mg/m ³ dust
Denmark	TWA: 5 mg/m ³ total 2 mg/m ³ respirable
Estonia	TWA: 10 mg/m ³ total dust 4 mg/m ³ respirable dust
Finland	TWA: 2 mg/m ³ Al
France	VME/VLE: 10MGM3
Germany	TWA 4 mg/m ³ Inhalable fraction 1.5 mg/m ³ Respirable dust TRGS 900 3 mg/m ³ Respirable dust 10 mg/m ³ Inhalable fraction
Germany	1.25 mg/m ³ 10 mg/m ³
Greece	TWA: 10 mg/m ³ inhalable fraction 5 mg/m ³ respirable fraction
Hungary	TWA: 6 mg/m ³ respirable dust
Ireland	TWA: 10 mg/m ³ total inhalable dust 4 mg/m ³ respirable dust
Ireland	30 mg/m ³ total inhalable dust 12 mg/m ³ respirable dust
Italy	TWA: 1MGM3;Respirable.
Latvia	TWA: 6 mg/m ³ disintegration aerosol
Lithuania	TWA: 5 mg/m ³ Al inhalable fraction 2 mg/m ³ Al respirable fraction
Netherlands	MAC TWA: 10 mg/m ³
Norway	TWA: 10 mg/m ³
Norway	STEL: 10 mg/m ³
Poland	TWA: 2.5 mg/m ³ inhalable fraction 1.2 mg/m ³ respirable fraction
Portugal	TWA: 10 mg/m ³ particulate matter containing no Asbestos and <1% Crystalline silica
Romania	TWA: 2 mg/m ³ aerosol 3 mg/m ³ 1 mg/m ³
Romania	STEL: 5 mg/m ³ aerosol 10 mg/m ³ dust

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Slovakia	3 mg/m ³ fume TWA: 1.5 mg/m ³ fume 1.5 mg/m ³
Spain	0.1 mg/m ³ respirable fraction 6 mg/m ³ total aerosol TWA: 10 mg/m ³
Sweden	TWA: 5 mg/m ³ total dust 2 mg/m ³ respirable dust
Switzerland	TWA: 3 mg/m ³ respirable dust, smoke
Switzerland	STEL: 24 mg/m ³ respirable dust, smoke
United Kingdom	TWA: 10 mg/m ³ inhalable dust 4 mg/m ³ respirable dust

Recommended monitoring procedures Refer also to national guidance documents for information on currently recommended monitoring procedures

Biological Limit Values None

Aluminum oxide

Worker - inhalative, long-term - systemic	3 mg/m ³
Consumer - oral, long-term - systemic	1.32 mg/kg bw/d

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
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 glasses with side shields (or goggles).

Skin and Body Protection Wear suitable protective clothing.

Hand Protection Protective gloves.

Hand protection For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn. Wear suitable gloves tested to EN 374.

Respiratory Protection In case of inadequate ventilation wear respiratory protection. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Recommended filter type: (FFP2). (FFP3).

Thermal hazards None known.

Hygiene Measures Follow general hygiene considerations recognized as common good workplace

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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

Appearance:

Physical State
Color

Solid Powder
White (Al2O3)

Odor

Odorless

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)

Freezing Point

Not applicable

Flash Point

Not applicable Product/Substance is inorganic Solid Melting Point : > 300°C

Flammability

No information available

Upper flammability limit:

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Lower flammability limit:

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Vapor Pressure

No information available

Relative Vapor Density

Not applicable

Melting Point : > 300°C

Density

No data available

Relative Density

+/- 3.7 - 3.9

Water Solubility

Insoluble

Solubility in other solvents

No information available

Partition coefficient

No information available Not applicable : Product/Substance is inorganic

Autoignition Temperature

No data available No information available

Decomposition Temperature

No data available No information available

Viscosity

No information available.

Kinematic viscosity

Not applicable

Dynamic viscosity

Not applicable Solid

Explosive Properties

None

Oxidizing Properties

None

Particle Characteristics

No information available

VOC Content (%)

Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not applicable

9.2.2. Other safety characteristics

Not applicable

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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 ₂ O ₃ 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.

11.1. Information on toxicological effects

Aluminum oxide

LD50s and LC50s	> 5000 mg/kg Oral LD50
Serious eye damage/eye irritation	Non-irritant : Rabbit
Skin Corrosion/Irritation	Non-irritant : Rabbit
Mutagenicity	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.

Acute Toxicity Mixture
Al₂O₃
Repeated dose toxicity Inhalation 28-d Rat NOAEL (No observed adverse effect level) 70 mg(Al)/m³ . Target Organs Lungs Respiratory system

Repeated dose toxicity 1- Year Oral Rat NOAEL (No observed adverse effect level) >=30 mg Al/kg bw

Respiratory Sensitization Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation Non-irritant : Rabbit

Skin Corrosion/Irritation Non-irritant : Rabbit

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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.

Information on Likely Routes of Exposure

Inhalation	Do not breathe dust
Ingestion	Ingestion is not a likely route of exposure
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
Aspiration hazard	Not an expected route of exposure.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties	This product does not contain any known or suspected endocrine disruptors
11.2.2. Other information	Not applicable

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SECTION 12: Ecological information

12.1. Toxicity Not considered to be harmful to aquatic life. Avoid release to the environment.

Aluminum oxide

Aquatic toxicity

WGK Classification (AwSV)

Not considered to be harmful to aquatic life
1346. WGK: nwg

12.2. Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential Not likely to bioaccumulate.

Bioconcentration factor (BCF)

No data available.

12.4. Mobility in soil

None.

12.5. Results of PBT and vPvB assessment

This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors

12.7. Other Adverse Effects

None known

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal Methods

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not reuse container.

Waste codes

Waste codes should be assigned by the user based on the application for which the product was used

Aluminum oxide

WGK Classification (AwSV)

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SECTION 14: Transport information

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

TDG -Canada	Not regulated
DOT	Not regulated
ADR	Not regulated
RID	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated
ICAO	Not regulated

14.1. UN number or ID 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. Maritime transport in bulk according to IMO instruments
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	Australia (AIC)	Canada (DSL)	China (IECSC)	Japan	S. Korea (KECL)	Mexico	Thailand (TECI)	New Zealand	Philippines (PICCS)	Taiwan	TSCA: United States
Aluminum oxide	1344-28-1	215-691-6	Y	Y	Y	(1)-23 (ENCS)(IS HL)	KE-01012	Y	55-1-01518	Y	Y	Y	A

X / Y: Complies ; A: Active ; - / N: Exempt / Not Listed

REACH No.

Aluminum oxide

EU REACH registration number 01-2119529248-35-xxxx

Turkish KKDIK pre-registration 05-0000192736-20-0000

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GermanyAluminum oxide

WGK Classification (AwSV) 1346. WGK: nwg

15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance

SECTION 16: Other information

Reason for Revision This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 & COMMISSION REGULATION (EU) No. 2020/878

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Prepared by Huber Engineered Materials Global Regulatory Affairs
(Email – HEM.HAMRegulatory@huber.com).

(CLP) Regulation (EC 1272/2008) Not classified.

Labeling

Symbols/Pictograms None

Signal Word None

Hazard Statements This product is not classified as hazardous according to the UN GHS guideline and labeling is not required
This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

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

Abbreviations and acronyms

IARC (International Agency for Research on Cancer)
IUCLID (International Uniform Chemical Information Database)
WHMIS (Workplace Hazardous Materials Information System)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
TWA (Time-Weighted Average)
CLP (The Classification, Labeling and Packaging of Substances and Mixtures Regulation (EC 1272/2008))
PPE (Personal Protection Equipment)
NIOSH (National Institute for Occupational Safety and Health)
CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)
RQ (Reportable Quantity) (RQ/% in mixture)
STEL (Short Term Exposure Limit)
TLV® (Threshold Limit Value)
DNEL (Derived No Effect Level)
SVHC (Substances of Very High Concern)
BOD (Biochemical oxygen demand)
COD (Chemical oxygen demand)
ICAO (International Civil Aviation Organization)
IMDG (International Maritime Dangerous Goods)
ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
RID (Agreement Concerning the International Carriage of Dangerous Goods by Rail)

HUBER

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IATA (International Air Transport Association)
IMDG (International Maritime Dangerous Goods)
DOT (Department of Transportation)
TDG (Transport of Dangerous Goods) Canada
PNEC (Predicted No Effect Concentration)
SCBA (Self-Contained Breathing Apparatus) Positive Pressure
GHS (Globally Harmonized System)
TSCA (Toxic Substances Control Act)

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