HUBER | MARTINSWERK

Safety Data Sheet

Martoxid® KMS-96 BO

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

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name: **Martoxid® KMS-96 BO**

Chemical Name Preparation : Al_2O_3

Chemical Name	CAS Number	EC No	EU REACH registration number	(CLP) Regulation (EC 1272/2008)	Weight-%
Aluminum oxide	1344-28-1	215-691-6	01-2119529248-35-xxxx 01-2119529248-35-0017	Not classified	>=86

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 : +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

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

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 No information available.

SECTION 3: Composition/information on ingredients

3.1. Substance Not applicable

3.2. Mixture Mixture

Chemical Name	CAS Number	EC No	EU REACH registration number	(CLP) Regulation (EC 1272/2008)	Annex	Weight-%
Aluminum oxide	1344-28-1	215-691-6	01-2119529248-35-xxxx 01-2119529248-35-0017	Not classified	-	>=86

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

Suitable Extinguishing Media
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

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/m³
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
NIOSH	Not established
Austria	TWA: 5 mg/m³ respirable fraction, smoke
Austria	STEL: 10 mg/m³ respirable fraction, smoke
Belgium	TWA: 1 mg/m³
Bulgaria	TWA: 1.5MGM3;Respirable fraction.

	10.0MGM3;Dust.
Croatia	TWA: 10 mg/m³ total dust 4 mg/m³ respirable dust
Czech Republic	TWA: 10.0 mg/m³ dust
Denmark	TWA: 5 mg/m³ total 2 mg/m³ respirable
Estonia	TWA: 10 mg/m³ total dust 4 mg/m³ respirable dust
Finland	TWA: 2 mg/m³ Al
France	VME/VLE: 10MGM3
Germany	DFG MAK: 8-hr TWA: 4 mg/m³: haltige Stäube (alveolengängige Fraktion)[4 mg/m³ : inhalable dust fraction] 1.5 mg/m³ haltige Stäube (einatembare Fraktion)[1.5MGM3 : respirable dust fraction] TRGS 900 limit : 3 mg/m³: respirable; 10MG/M3 inhalable
Greece	TWA: 10 mg/m³ inhalable fraction 5 mg/m³ respirable fraction
Hungary	TWA: 6 mg/m³ respirable dust
Ireland	TWA: 10 mg/m³ total inhalable dust 4 mg/m³ respirable dust
Ireland	30 mg/m³ total inhalable dust 12 mg/m³ respirable dust
Italy	TWA: 1MGM3;Respirable.
Latvia	TWA: 6 mg/m³ disintegration aerosol
Lithuania	TWA: 5 mg/m³ Al inhalable fraction 2 mg/m³ Al respirable fraction
Netherlands	MAC TWA: 10 mg/m³
Norway	TWA: 10 mg/m³
Norway	STEL: 10 mg/m³
Poland	TWA: 2.5 mg/m³ inhalable fraction 1.2 mg/m³ respirable fraction
Portugal	TWA: 10 mg/m³ particulate matter containing no Asbestos and <1% Crystalline silica
Romania	TWA: 2 mg/m³ aerosol 3 mg/m³ 1 mg/m³
Romania	STEL: 5 mg/m³ aerosol 10 mg/m³ dust 3 mg/m³ fume
Slovakia	TWA: 1.5 mg/m³ fume 1.5 mg/m³ 0.1 mg/m³ respirable fraction 6 mg/m³ total aerosol
Spain	TWA: 10 mg/m³
Sweden	TWA: 5 mg/m³ total dust 2 mg/m³ respirable dust
Switzerland	TWA: 3 mg/m³ respirable dust, smoke
Switzerland	STEL: 24 mg/m³ respirable dust, smoke
United Kingdom	TWA: 10 mg/m³ inhalable dust 4 mg/m³ respirable dust

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

Biological Limit Values None

DNEL/DMEL and PNEC values

Aluminum oxide

Worker - inhalative, long-term - systemic	3 mg/m³

Consumer - oral, long-term - systemic	6.22 mg/kg bw/d

PNEC (Predicted No Effect Concentration)

Aluminum oxide

Sewage treatment plant	20 mg/l

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

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 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 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)
Freezing Point	Not applicable
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	1 hPa (2158 °C)
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 Size	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

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_2O_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 hazard classes as defined in Regulation (EC) No 1272/2008

Aluminum oxide

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.
Target Organ Effects	Lungs
Specific target organ toxicity - Single exposure	May cause respiratory irritation
Specific target organ toxicity - Repeated exposure	May cause damage to organs through prolonged or repeated exposure if inhaled Lungs

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

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

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.

Mixture versus substance information Mixture

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

SECTION 12: Ecological information

12.1. Toxicity Not considered to be harmful to aquatic life

Aluminum oxide

WGK Classification (AwSV) 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

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)	1346 WGK: nwg

SECTION 14: Transport information

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

TDG -Canada	Not regulated
DOT	Not regulated
ADR	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 (AIIC)	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)(ISHL)	KE-01012	Y	55-1-01517	Y	Y	Y	A

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

REACH No.

Aluminum oxide

EU REACH registration number 01-2119529248-35-xxxx
01-2119529248-35-0017

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

Germany

Very low solubility Not considered to be harmful to aquatic life

Aluminum 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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(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

Land transport (ADR/RID)
BOD (Biochemical oxygen demand)
COD (Chemical oxygen demand)
DNEL (Derived No Effect Level)
PNEC (Predicted No Effect Concentration)
DOT (Department of Transportation)
ICAO (International Civil Aviation Organization)
IATA (International Air Transport Association)
IARC (International Agency for Research on Cancer)
IMDG (International Maritime Dangerous Goods)
PPE (Personal Protection Equipment)
SCBA (Self-Contained Breathing Apparatus) Positive Pressure
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
WHMIS (Workplace Hazardous Materials Information System)

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