



Martoxid® MZS; Martoxid® MZS-1; Martoxid® MZS-3; Martoxid® MZS-12

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

Issue Date 17/Jul/2024
Print Date 19/Jul/2024

Revision Number 1.3.1
Page 1 of 10

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Martoxid® MZS; Martoxid® MZS-1; Martoxid® MZS-3; Martoxid® MZS-12
Pure substance/mixture	Substance
<u>Aluminum oxide</u>	
CAS Number	1344-28-1
Weight-%	>99
Recommended Use	Abrasive , Adsorbent(s) , Catalyst , Ceramic , Chemical industry (raw material for the production of other aluminium compounds), etc.
Uses advised against	None known
Company:	MARTINSWERK GmbH Kölner Strasse 110 50127 Bergheim Germany Tel. : +49-2271-90.22.78 Fax. : +49-2271-90.27.17
Emergency Telephone	CHEMTREC China: 4001-204937 (Mandarin) Local call: +86 532 5879 2008
E-mail	www.huberadvancedmaterials.com/contact
Internet	www.huberadvancedmaterials.com

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

Safety Data Sheet

Martoxid® MZS; Martoxid® MZS-1; Martoxid® MZS-3; Martoxid® MZS-12

Issue Date 17/Jul/2024

Print Date 19/Jul/2024

Revision Number 1.3.1

Page 2 of 10

Precautionary Statements

Prevention	Do not handle until all safety precautions have been read and understood. Observe good industrial hygiene practices. Wear protective gloves/protective clothing/eye protection/face protection. Use mechanical ventilation (dilution and local exhaust) to control exposure Avoid breathing dust.
Response	None
Spills and Leaks	Collect spillage
Storage	Store in a dry place
Disposal	Dispose of in accordance with federal, state and local regulations
General Advice	In case of doubt or when symptoms persist, seek medical attention.

Additional Information: None.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture

Substance

Chemical Name	CAS Number	China (IECSC)	China classification	TSCA: United States	EU REACH registration number	Weight-%
Aluminum oxide	1344-28-1	Y	Not classified.	A	01-2119529248-35 -xxxx 01-2119529248-35 -0017	>99

Additional Information: TSCA A: Component is listed on Inventory as Active

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

Safety Data Sheet

Martoxid® MZS; Martoxid® MZS-1; Martoxid® MZS-3; Martoxid® MZS-12

Issue Date 17/Jul/2024

Print Date 19/Jul/2024

Revision Number 1.3.1

Page 3 of 10

Ingestion	Rinse mouth with water. Do not induce vomiting.
Notes to Physician	Treat symptomatically
Personal Protective Equipment For First Aid Responders	Wear suitable protective clothing 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. When exposed to high concentrations of airborne dust, wear a SCBA in accordance with national legislation
Environmental Precautions	This product does not present any particular risk to the environment. Refer to applicable national, state and local regulations prior to washing in drain.
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	Avoid dust formation. Avoid breathing dust. Handle in accordance with good
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Safety Data Sheet

Martoxid® MZS; Martoxid® MZS-1; Martoxid® MZS-3; Martoxid® MZS-12

Issue Date 17/Jul/2024

Print Date 19/Jul/2024

Revision Number 1.3.1

Page 4 of 10

industrial hygiene and safety practice.

Storage

Store in a dry area. Keep containers closed and protect from physical damage.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits

Provide adequate ventilation as well as local exhaust 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 glasses with side shields (or goggles)

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 Handle in accordance with good industrial hygiene and safety practice

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

Odor

Odorless

Odor Threshold

No information available

Safety Data Sheet

Martoxid® MZS; Martoxid® MZS-1; Martoxid® MZS-3; Martoxid® MZS-12

Issue Date 17/Jul/2024

Print Date 19/Jul/2024

Revision Number 1.3.1

Page 5 of 10

pH:	Not available
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	1 hPa (2158 °C)
Vapor Density	Not applicable Melting Point : > 300°C
Relative Density	4 g/cm ³ (20°C)
Water Solubility	Insoluble
Solubility in other solvents	No information available
Partition coefficient	Not applicable Product/Substance is inorganic
Autoignition Temperature	Aluminum oxide has no potential to explode.
Decomposition Temperature	~2000 °C (> 2050 °C)
Kinematic viscosity	Not applicable Solid
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

Safety Data Sheet

Martoxid® MZS; Martoxid® MZS-1; Martoxid® MZS-3; Martoxid® MZS-12

Issue Date 17/Jul/2024

Print Date 19/Jul/2024

Revision Number 1.3.1

Page 6 of 10

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	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	Based on available data, the classification criteria are not met.
Chronic Toxicity	Based on available data, the classification criteria are not met.
Chronic Effects	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.
Respiratory Sensitization	Based on available data, the classification criteria are not met.
Skin Corrosion/Irritation	Based on available data, the classification criteria are not met.
Skin Sensitization	Based on available data, the classification criteria are not met.
Mutagenicity	Based on available data, the classification criteria are not met.
Reproductive Effects	This product does not contain any known or suspected reproductive hazards.
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.
Specific target organ toxicity - Single exposure	Based on available data, the classification criteria are not met.

Safety Data Sheet

Martoxid® MZS; Martoxid® MZS-1; Martoxid® MZS-3; Martoxid® MZS-12

Issue Date 17/Jul/2024

Print Date 19/Jul/2024

Revision Number 1.3.1

Page 7 of 10

Specific target organ toxicity - Repeated exposure Based on available data, the classification criteria are not met.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity	Not considered to be harmful to aquatic life. Avoid release to the environment.
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
ADN	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated
ICAO	Not regulated

Safety Data Sheet

Martoxid® MZS; Martoxid® MZS-1; Martoxid® MZS-3; Martoxid® MZS-12

Issue Date 17/Jul/2024

Print Date 19/Jul/2024

Revision Number 1.3.1

Page 8 of 10

- 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	EU REACH registration number	Australia (AIIIC)	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	A

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

Safety Data Sheet

Martoxid® MZS; Martoxid® MZS-1; Martoxid® MZS-3; Martoxid® MZS-12

Issue Date 17/Jul/2024

Print Date 19/Jul/2024

Revision Number 1.3.1

Page 9 of 10

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	IARC (International Agency for Research on Cancer) IATA (International Air Transport Association) IMDG (International Maritime Dangerous Goods) IUCLID (International Uniform Chemical Information Database) WHMIS (Workplace Hazardous Materials Information System) DOT (Department of Transportation) 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) TDG (Transport of Dangerous Goods) Canada 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) SCBA (Self-Contained Breathing Apparatus) Positive Pressure GHS (Globally Harmonized System) ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Road) RID (Agreement Concerning the International Carriage of Dangerous Goods by Rail) SARA (Superfund Amendments and Reauthorization Act of 1986)

HUBER

Safety Data Sheet

Martoxid® MZS; Martoxid® MZS-1; Martoxid® MZS-3; Martoxid® MZS-12

Issue Date 17/Jul/2024

Print Date 19/Jul/2024

Revision Number 1.3.1

Page 10 of 10

TSCA (Toxic Substances Control Act)

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End of Safety Data Sheet