



Safety Data Sheet

FIRE RETARDANT ADDITIVES

Martoxid® MZS; Martoxid® MZS-1; Martoxid® MZS-2; Martoxid® MZS-3; Martoxid® MZS-12

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006
COMMISSION REGULATION (EU) No. 2015/830

Issue Date: 17/Oct/2016
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name: Martoxid® MZS; Martoxid® MZS-1; Martoxid® MZS-2; Martoxid® MZS-3; Martoxid® MZS-12

Pure substance/mixture Substance

Chemical Name	CAS Number	EC No	REACH registration number	(CLP) Regulation (EC 1272/2008)	TSCA: United States	Weight-%
Aluminum oxide	1344-28-1	215-691-6	01-2119529248-35-xxxx 01-2119529248-35-0017	Not classified	Y	>99

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Abrasive , Adsorbent(s) , Catalyst , Ceramic , Chemical industry (raw material for the production of other aluminium compounds), etc.

Industrial use --

Professional use --

Consumer use --

1.3. Details of the supplier of the safety data sheet

Company: MARTINSWERK GmbH
Kölner Strasse 110
50127 Bergheim
Germany
Tel. : +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 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing If swallowed, rinse mouth with water (only if the person is conscious) Drink plenty of 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. Substances Substance

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Chemical Name	CAS Number	EC No	REACH registration number	(CLP) Regulation (EC 1272/2008)	Annex	TSCA: United States	Weight-%
Aluminum oxide	1344-28-1	215-691-6	01-2119529248-35-xxxx 01-2119529248-35-0017	Not classified	-	Y	>99

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

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.

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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
OSHATWA: 10 mg/m³
TWA: 15 mg/m³ total dust
TWA: 5 mg/m³ respirable fraction
(vacated) TWA: 10 mg/m³ total dust

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	(vacated) TWA: 5 mg/m ³ respirable fraction Not established
NIOSH	
Austria	TWA: 5 mg/m ³ alveolar dust, respirable fraction, smoke
Austria	STEL: 10 mg/m ³ alveolar dust, 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	DFG MAK: 8-hr TWA: 4 mg/m ³ : haltige Stäube (alveolengängige Fraktion)[4 mg/m ³ : inhalable dust fraction] 1.5 mg/m ³ haltige Stäube (einatembare Fraktion)[1.5MGM3 : respirable dust fraction] TRGS 900 limit : 3 mg/m ³ : respirable; 10MG/M3 inhalable
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 3 mg/m ³ fume
Slovakia	TWA: 1.5 mg/m ³ fume 1.5 mg/m ³ 0.1 mg/m ³ respirable fraction 6 mg/m ³ total aerosol
Spain	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

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Derived No Effect Level (DNEL)**Aluminum oxide**

Worker - inhalative, long-term - systemic	3 mg/m ³
Consumer - oral, long-term - systemic	6.22 mg/kg bw/d

Predicted No Effect Concentration (PNEC)**Aluminum oxide**

Sewage treatment plant	20 mg/l
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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

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9.1. Information on basic physical and chemical properties**Appearance:**

Physical State	Solid Powder
Color	White
Odor	Odorless
Odor Threshold	No information available
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	No information available
Decomposition Temperature	~2000°C (> 2050°C)
Kinematic viscosity	Not applicable Solid
Dynamic viscosity	Not applicable Solid
Explosive Properties	None
Oxidizing Properties	None

9.2. Other information

No data available

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 ~ 2000 °C (> 2050°C) < / =0.3% : 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.

Information on Likely Routes of Exposure

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

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	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.
Respiratory Sensitization	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
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	Not classified.
Specific target organ toxicity - Repeated exposure	Not classified.

SECTION 12: Ecological information

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

Aluminum oxide

WGK Classification (VwVwS) 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. 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.

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Legend X / Y: Complies , - / N: Not Listed , Exempt

National Regulations

Germany

Aluminum oxide

WGK Classification (VwVwS) 1346. WGK: nwg

SECTION 16: Other information

Reason for Revision This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 & COMMISSION REGULATION (EU) No. 2015/830

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Prepared by Huber Engineered Materials Global Regulatory Affairs
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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

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
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

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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