



Martoxid® MR-23; Martoxid® MR-32; Martoxid® MR-41; Martoxid® MR-42; Martoxid® MR-52; Martoxid® MR-63; Martoxid® MR-70; Martoxid® MR-70 FF; Martoxid® MRS; Martoxid® MRS-1

OSHA HCS 2024

Canadian Workplace Hazardous Material Information System (WHMIS) 2015 rev 2022

Mexico NOM-018-STPS-2000; NOM-018-STPS-2015

GHS (Globally Harmonized System)

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

1.1. Product identifier

Product Name:	Martoxid® MR-23; Martoxid® MR-32; Martoxid® MR-41; Martoxid® MR-42; Martoxid® MR-52; Martoxid® MR-63; Martoxid® MR-70; Martoxid® MR-70 FF; Martoxid® MRS; Martoxid® MRS-1
Pure substance/mixture	Substance
Chemical Name	Aluminum Oxide

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

Recommended Use	Abrasive. Adsorbent(s). Catalyst. Filler. Chemical industry (raw material for the production of other aluminium compounds), etc.
Industrial use	Production substance Polymer processing Production of plastics and rubber compounds Formulation flame retardant preparation Compounds used in transport industry Compounds used in electrical application Compounds used in electronic application Compounds used in Wire & Cable Abrasive for glass industry, ceramics and stones Textile coating Production of corrosion inhibitors Fuels Deacidification agent for paper pH Regulating agent Use in coatings, inks, paints and roofing Use as corrosion inhibitor of gas turbines and boilers Use in cleaning agents Use in oil field operations Use in lubricants Use in metal working fluids Use in blowing agents Use in binders and release agents

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Use in textile
Use in functional fluids
Use in agrochemicals
Use in water treatment chemicals
Use in mining chemicals
Recycling plastics
White pigment for paper and board, filler, etc.

Professional use

Polymer processing
Use in Adhesives and/or sealants
Use in coatings, inks, paints and roofing
Use in agrochemicals
Use in cleaning agents
Use in oil field operations
Use in lubricants
Use in metal working fluids
Use in binders and release agents
Use in propellants
Use in textile
Use in explosives
Use in water treatment chemicals
Use in functional fluids
For use by laboratories for research
Fuels
De-icing & anti-icing applications
Road and construction applications

Consumer use

Use in coatings, inks, paints and roofing
Use in cleaning agents
Use in lubricants
Use in propellants
Fuels
Use in functional fluids
De-icing & anti-icing applications
Cosmetic additive
Use in water treatment chemicals

Uses advised against

None known.

1.3. Details of the supplier of the safety data sheet

Company:

J.M. Huber Corporation
3100 Cumberland Boulevard, Suite 600
Atlanta, GA 30339 USA
Tel: +1 678 247-7300

Internet

www.huberadvancedmaterials.com

Contact E-Mail

www.huberadvancedmaterials.com/contact

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1.4. Emergency telephone number

CHEMTREC: +1 800 424 9300 or International 1+703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

OSHA Regulatory Status

This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

GHS Classification

This product is not classified as hazardous according to the UN GHS guideline and labeling is not required

Physical Hazards

Not classified.

Health Hazards

Not classified.

Environmental Hazard

Not classified.

2.2. Label elements

Symbols/Pictograms

None

Signal Word

None

Hazard Statements

None

Precautionary Statements

Prevention

Employ good industrial hygiene practice
Do not handle until all safety precautions have been read and understood
Wash thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust

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
If swallowed, rinse mouth with water (only if the person is conscious)
Drink plenty of water

Storage

Store away from incompatible materials

Disposal

Dispose of contents/containers in accordance with local regulations

Additional Information:

None.

Hazards not otherwise classified Not classified.

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(HNOC)

Hazards associated with known or reasonably anticipated uses None known.

Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity.

SECTION 3: Composition/information on ingredients

Pure substance/mixture Substance

Chemical Name	CAS Number	Weight-%
Aluminium oxide	1344-28-1	>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.

Ingestion Rinse mouth thoroughly with water.

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

Aspiration hazard Not an expected route of exposure.

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.

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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.

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.

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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

Aluminium oxide

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
OSHA - Final PELs -TWA	15 mg/m ³ TWA 5 mg/m ³ TWA
ACGIH	TWA: 10 mg/m ³
NIOSH	--
Canada - Ontario - OEL - TWA EVs	1 mg/m ³

PNEC (Predicted No Effect Concentration) No information available

DNEL (Derived No Effect Level) No information available

Biological Limit Values None

8.2. Exposure controls

Engineering Measures Provide a good standard of controlled ventilation (5 to 10 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.

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Respiratory Protection	In case of inadequate ventilation wear respiratory protection.
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
Odor	Odorless
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)
Freezing Point	Not applicable
Flash Point	Not applicable Product/Substance is inorganic Solid Melting Point : > 300°C
Flammability	No information available
Upper flammability limit:	--
Lower flammability limit:	--
Vapor Pressure	1 hPa (2158 °C)
Relative Vapor Density	Not applicable Melting Point : > 300°C
Density	No data available
Relative Density	4 (20 °C)
Water Solubility	Insoluble
Solubility in other solvents	No information available
Partition coefficient	No information available Not applicable Product/Substance is inorganic
Autoignition Temperature	Aluminum oxide has no potential to explode.
Decomposition Temperature	~2000 °C (> 2050 °C)
Viscosity	No information available.
Kinematic viscosity	Not applicable Solid
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

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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 ~ 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.
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11.1. Information on toxicological effects

Aluminium 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	No information available
- Single exposure	
Specific target organ toxicity	Repeated dose toxicity Inhalation 28-d Rat NOAEL (No observed adverse effect level) 70 mg(Al)/m ³
- Repeated exposure	Repeated dose toxicity 1- Year Rat NOAEL (No observed adverse effect level) >=30 mg Al/kg bw

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

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
- 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

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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
ADN	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated
ICAO	Not regulated

14.1. UN number or ID number None

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. Maritime transport in bulk according to IMO instruments
Not applicable

SECTION 15: Regulatory information

Global Inventories

Pure substance/mixture Substance

Chemical Name	CAS Number	EC No	Australia (AIIIC)	Canada (DSL)	China (IECSC)	Japan	S. Korea (KECL)	Mexico	Thailand (TECI)	New Zealand	Taiwan	Philippines (PICCS)	TSCA: United States
Aluminium 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

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US Federal Regulations

EPA

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemicals which is subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Aluminium oxide

SARA 313 1.0

CWA (Clean Water Act)

Not listed

CAA (Clean Air Act)

Not listed

U.S. State Right-to-Know Regulations

Chemical Name	CAS NUMBER:	California Proposition 65	Massachusetts	Minnesota	New Jersey	Pennsylvania
Aluminium oxide	1344-28-1	-	Listed	--	Listed	Listed

Y: Listed ; N: Not Listed

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product does not contain any Proposition 65 chemicals

CANADA

WHMIS

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

SECTION 16: Other information

Prepared by

Huber Engineered Materials (HEM) Global Regulatory Affairs
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Reason for Version

OSHA (Occupational Safety and Health Administration of the US Department of Labor).

Training Advice

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

Abbreviations and acronyms

IARC (International Agency for Research on Cancer)

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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)
ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
RID (Agreement Concerning the International Carriage of Dangerous Goods by Rail)
SCBA (Self-Contained Breathing Apparatus) Positive Pressure
GHS (Globally Harmonized System)
SARA (Superfund Amendments and Reauthorization Act of 1986)
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