



**Martoxid® TM-2250 X**

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03  
Canadian Workplace Hazardous Material Information System (WHMIS) 2015  
Mexico NOM-018-STPS-2000; NOM-018-STPS-2015  
GHS (Globally Harmonized System)

**Issue Date** 11/Dec/2023  
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**Revision Number** 1.1  
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## **SECTION 1: Identification of the substance/mixture and of the company/undertaking**

### **1.1. Product identifier**

**Product Name:** Martoxid® TM-2250 X  
**Pure substance/mixture** Mixture

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

**Recommended Use** Thermally conductive filler  
**Industrial use** --  
**Professional use** --  
**Consumer use** --  
**Uses advised against** None known.

### **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.huberadvancedmaterials.com](http://www.huberadvancedmaterials.com)

**Contact E-Mail** [www.huberadvancedmaterials.com/contact](http://www.huberadvancedmaterials.com/contact)

**E-mail** [hubermaterials@huber.com](mailto:hubermaterials@huber.com)

**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**

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

**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

**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.  
(HNOC)

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## SECTION 3: Composition/information on ingredients

Pure substance/mixture

Mixture

Chemical Name	CAS Number	Weight-%
Aluminum oxide	1344-28-1	>99

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

## 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.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable Extinguishing Media**

Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable Extinguishing Media**

None known.

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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

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## 8.1. Control parameters

### Occupational exposure limits

#### Aluminum oxide

OSHA

TWA: 15 mg/m<sup>3</sup> total dust  
TWA: 5 mg/m<sup>3</sup> respirable fraction  
(vacated) TWA: 10 mg/m<sup>3</sup> total dust  
(vacated) TWA: 5 mg/m<sup>3</sup> respirable fraction  
TWA: 10 mg/m<sup>3</sup>

ACGIH

NIOSH

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#### PNEC (Predicted No Effect Concentration)

**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.**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

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<b>Odor Threshold</b>	No information available
<b>pH:</b>	8.8 11% Water
<b>Melting point / Freezing point</b>	2000 °C (3632 °F) (1013 hPa)
<b>Initial boiling point and boiling range</b>	2980 °C (5396 °F) (1013 hPa)
<b>Freezing Point</b>	Not applicable
<b>Flash Point</b>	Not applicable Product/Substance is inorganic Solid
<b>Evaporation Rate</b>	Not applicable. Melting Point : > 300°C
<b>Flammability (solid, gas)</b>	No information available
<b>Upper flammability limit:</b>	--
<b>Lower flammability limit:</b>	--
<b>Vapor Pressure</b>	1 hPa (2158 °C)
<b>Vapor Density</b>	Not applicable Melting Point : > 300°C
<b>Density</b>	No data available
<b>Relative Density</b>	3.98 g/cm <sup>3</sup>
<b>Water Solubility</b>	Insoluble
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	No information available Not applicable Product/Substance is inorganic
<b>Autoignition Temperature</b>	Aluminum oxide has no potential to explode.
<b>Decomposition Temperature</b>	~2000 °C (> 2050 °C)
<b>Viscosity</b>	No information available.
<b>Kinematic viscosity</b>	Not applicable Solid
<b>Dynamic viscosity</b>	Not applicable Solid
<b>Explosive Properties</b>	None
<b>Oxidizing Properties</b>	None
<b>Particle Size</b>	No information available
<b>VOC Content (%)</b>	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

<b>10.1. Reactivity</b>	No data available
<b>10.2. Chemical stability</b>	Stable under normal conditions
<b>10.3. Possibility of hazardous reactions</b>	None under normal processing
<b>10.4. Conditions to avoid</b>	Incompatible materials Decomposition Temperature ~ 2000 °C (> 2050°C) < / =0.3% : Al <sub>2</sub> O <sub>3</sub> , Water
<b>10.5. Incompatible materials</b>	Strong acids

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**10.6. Hazardous decomposition** None known products

## 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

<b>Serious eye damage/eye irritation</b>	Non-irritant : Rabbit
<b>Skin Corrosion/Irritation</b>	Non-irritant : Rabbit
<b>Mutagenicity</b>	Based on available data, the classification criteria are not met
<b>Reproductive Effects</b>	No indication of effects on fertility. No indication of effects on developmental toxicity.
<b>Target Organ Effects</b>	Lungs
<b>Specific target organ toxicity</b>	May cause respiratory irritation
- Single exposure	
<b>Specific target organ toxicity</b>	May cause damage to organs through prolonged or repeated exposure if inhaled
- Repeated exposure	Lungs

<b>Acute Toxicity</b>	Based on available data, the classification criteria are not met
<b>Chronic Toxicity</b>	Based on available data, the classification criteria are not met.
<b>Chronic Effects</b>	Based on available data, the classification criteria are not met.
<b>Respiratory Sensitization</b>	Based on available data, the classification criteria are not met
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met
<b>Skin Corrosion/Irritation</b>	Based on available data, the classification criteria are not met
<b>Skin Sensitization</b>	Based on available data, the classification criteria are not met
<b>Mutagenicity</b>	Based on available data, the classification criteria are not met
<b>Reproductive Effects</b>	This product does not contain any known or suspected reproductive hazards.
<b>Reproductive Toxicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
<b>Specific target organ toxicity -</b>	Based on available data, the classification criteria are not met.

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

**Mixture versus substance information** Not applicable

**Information on Likely Routes of Exposure**

<b>Inhalation</b>	Do not breathe dust
<b>Ingestion</b>	Ingestion is not a likely route of exposure
<b>Skin</b>	Avoid prolonged or repeated contact with skin Contact with dust can cause mechanical irritation or drying of the skin
<b>Eyes</b>	Avoid contact with eyes Dust contact with the eyes can lead to mechanical irritation
<b>Aspiration hazard</b>	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.



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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)**

<b>TDG -Canada</b>	Not regulated
<b>DOT</b>	Not regulated
<b>ADR</b>	Not regulated
<b>RID</b>	Not regulated
<b>ADN</b>	Not regulated
<b>IATA</b>	Not regulated
<b>IMDG/IMO</b>	Not regulated
<b>ICAO</b>	Not regulated

**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** Not applicable

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## 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

### Global Inventories

Pure substance/mixture

Mixture

Chemical Name	CAS Number	EC No	EU REACH registration number	Australia (AIC)	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	01-211952 9248-35-x xxx  01-211952 9248-35-0 017	Y	Y	Y	(1)-23 (ENCS)(ISH L)	KE-01012	Y	Y	Y	Y	A

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

### 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.

##### Aluminum 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
Aluminum oxide	1344-28-1	-	Y	Y	Y	Y

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

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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

<b>Prepared by</b>	Huber Engineered Materials (HEM) Global Regulatory Affairs regulatory.affairs@huber.com
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<b>Revision Number</b>	1.1
<b>Reason for Version</b>	OSHA (Occupational Safety and Health Administration of the US Department of Labor).
<b>Training Advice</b>	Do not handle until all safety precautions have been read and understood.
<b>Abbreviations and acronyms</b>	IARC (International Agency for Research on Cancer) IATA (International Air Transport Association) IMDG (International Maritime Dangerous Goods) IUCIID (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

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