FIRE RETARDANT ADDITIVES

Safety Data Sheet

Martoxid® PC 12; Martoxid® PC 12/1; Martoxid® PC 12/2; Martoxid® PC 12/3

This material safety datasheet has been prepared according to Brazilian legislation and ABNT NBR 14725:2014
Globally Harmonized System (GHS)

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

1.1. Product identifier

Product Name: Martoxid® PC 12; Martoxid® PC 12/1; Martoxid® PC 12/2; Martoxid® PC 12/3

Pure substance/mixture Substance

Aluminium oxide
CAS Number 1344-28-1
Weight-% >99

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

Recommended Use Industrial Abrasive Adsorbent(s) Catalyst Filler

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

SECTION 2: Hazards identification

Brazil Ministry of Transport This product is not part of the Hazardous Products Classification established by the Brazilian Federal Department of Transportation's Administrative Ruling 204 from 5/20/1997.

2.1. Classification of the substance or mixture

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 (HNOC) Not classified.

SECTION 3: Composition/information on ingredients

Pure substance/mixture Substance

Chemical Name	CAS Number	TSCA: United States	REACH registration number	GHS Classification	Weight-%
Aluminium oxide	1344-28-1	A	01-2119529248-35-xxxx 01-2119529248-35-0017	Not classified.	>99

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

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 May cause skin, eye, and respiratory tract irritation.

4.3. Indication of any immediate medical attention and special treatment needed Treatment should be symptomatic and supportive.

SECTION 5: Firefighting measures

Flammable Properties None known

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.

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 - 1344-28-1

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

ACGIH	TWA: 10 mg/m³
Mexico	TWA 10 mg/m³

Predicted No Effect Concentration (PNEC)

Biological Limit Values: None

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.

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

Physical State Solid.

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 Not available

Flash Point:	Not applicable Product/Substance is inorganic Solid
Evaporation Rate	Not applicable
Flammability (solid, gas)	No information available
Vapor Pressure	1 hPa (2158 °C)
Relative Density	4 g/cm3 (20°C)
Water Solubility	Insoluble
Partition coefficient	Not available
Autoignition Temperature	Aluminum oxide has no potential to explode.
Decomposition Temperature	~2000 °C (> 2050 °C)
Viscosity	Not applicable
Explosive Properties	None
Oxidizing Properties	None
VOC Content (%)	Not applicable
Solubility in other solvents	No information available

9.2. Other information

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_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.

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.

Symptoms related to the physical, chemical and toxicological characteristics Signs and symptoms may include coughing, gasping, choking and difficulty breathing. Contact with eyes may cause irritation.

Symptoms Low hazard for usual industrial or commercial handling

11.1. Information on toxicological effects

Aluminium oxide - 1344-28-1

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.

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.

Germ cell 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.
Mixture versus substance information	No information available.

SECTION 12: Ecological information

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

Aluminium oxide - 1344-28-1

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.

Partition coefficient Not available.

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

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

Disposal Methods Disposal should be in accordance with applicable regional, national and local laws and regulations

SECTION 14: Transport information

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

ADR Not regulated

RID Not regulated

ADN Not regulated

IATA Not regulated

IMDG/IMO Not regulated

ICAO 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 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

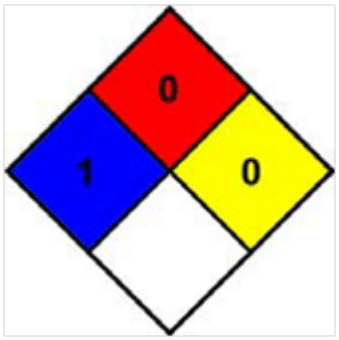
Global Inventories

Chemical Name	CAS Number	EC No	REACH registration number	Australia (AICS)	Canada (DSL)	China (IECSC)	Japan	S. Korea (KECL)	Mexico	New Zealand	Philippines (PICCS)	Taiwan	TSCA: United States
Aluminium oxide	1344-28-1	215-691-6	01-2119529248-35-x	Y	Y	Y	(1)-23 (ENCS)(ISHL)	KE-01012	Y	Y	Y	Y	A

			xxx 01-211952 9248-35-0 017										

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

Information on risks and safety as written on the label
Health - Blue
Flammability - Red
Physical Hazard - Yellow
Special - White
Diamante de Hommel



4- Extreme
3- High
2- Moderate
1- Low
0- Minimum

SECTION 16: Other information

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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
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)
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
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