



Safety Data Sheet

FIRE RETARDANT ADDITIVES

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

Japan-JIS Z 7253:2012
Occupational Safety and Health Act
Globally Harmonized System (GHS)

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1. PRODUCT AND COMPANY IDENTIFICATION

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

Pure substance/mixture Substance

Aluminum oxide
CAS Number 1344-28-1
Weight-% -

Recommended Use Industrial Abrasive Adsorbent(s) Catalyst Filler

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2. HAZARD IDENTIFICATION

Japan GHS Classification

Physical Hazards Not classified

Health Hazard Specific target organ toxicity (STOT) - single exposure, category 3 respiratory tract irritation
Specific target organ toxicity (STOT) - repeated exposure, category 1 Lungs

Environmental Hazards Not classified

GHS label elements
Symbols/Pictograms

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Danger

Hazard statements

H372 - Causes damage to organs through prolonged or repeated exposure
 H335 - May cause respiratory irritation

Precautionary Statements**Prevention**

Do not handle until all safety precautions have been read and understood
 Employ good industrial hygiene practice
 Do not breathe dust
 Wash hands thoroughly after handling

Response

IF exposed or concerned: Get medical advice/attention
 Wash with plenty of soap and water

Storage

Store away from incompatible materials.
 Keep in a dry place

Disposal

Dispose of contents/container to an approved waste disposal plant

Additional Information:

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture**Substance**

Chemical Name	CAS Number	Japan	Japan GHS Classification	TSCA: United States	REACH registration number	Weight-%
Aluminum oxide	1344-28-1	(1)-23 (ENCS)(ISHL)	STOT - single exposure Category 3 respiratory tract irritation STOT (Repeat Exposure):1. Target organ: lung	A	01-2119529248-35 -xxxx 01-2119529248-35 -0017	-

4. FIRST AID MEASURES

If inhaled:

Remove victim to fresh air and keep at rest in a position comfortable for breathing
 If symptoms persist, call a physician

IF ON SKIN:

Wash off with soap and water. Get medical attention if irritation develops and persists.

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IF IN EYES: In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes
Call a physician if irritation develops and persists

If swallowed: Rinse mouth thoroughly with water
If swallowed, call a poison control center or physician immediately

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Water spray (fog)
Foam
Dry chemical
Carbon dioxide (CO₂)

Unsuitable Extinguishing Media Do not use water jetstream

Special hazards arising from the substance or mixture Avoid dust formation

Fire-fighting measures In case of fire and/or explosion do not breathe fumes
Water mist may be used to cool closed containers
Keep unauthorized personnel away

Special Protective Equipment for Firefighters Wear self-contained breathing apparatus and protective suit

6. ACCIDENTAL RELEASE MEASURES

Protective Equipment and Precautions for Firefighters Avoid dust formation
Ensure adequate ventilation
Use personal protection recommended in Section 8
Avoid contact with eyes and skin. Wear suitable personal protection equipment.
Keep unauthorized personnel away

Environmental Precautions Keep out of drains, sewers, ditches and waterways
Disposal considerations
See section 13 for more information

Methods and material for containment and cleaning up Large Spill: Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust
Small Spill: Vacuum or sweep material and place in a disposal container Minimize use of water during clean-up
Recommended filter type: High efficiency particulate air filter (HEPA filter)

Other Information Not applicable

7. HANDLING AND STORAGE

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Handling**Technical measures**

Provide adequate ventilation as well as local exhaust at critical locations
Ensure adequate ventilation
Use personal protection equipment
See section 8 for more information

Advice on safe handling

Minimize dust generation and accumulation

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a cool, well-ventilated place

Hygiene Measures

Wash hands thoroughly after handling

Storage**Packaging compatibilities**

Keep/store only in original container

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Exposure Limits**

Provide adequate ventilation as well as local exhaust at critical locations

Aluminum oxide

Japan

TWA: 0.5 mg/m³ (respirable dust)
2 mg/m³ (total dust)

Engineering Measures

Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment**Respiratory Protection**

In case of inadequate ventilation wear respiratory protection

Hand protection

For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn

Eye Protection

Wear safety glasses with side shields (or goggles)

Skin and Body Protection

Wear suitable protective clothing.
Chemical resistant apron.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice
Wash thoroughly after handling
Avoid contact with eyes and skin
Do not breathe dust

9. 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.

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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/cm3 (20°C)
Water Solubility	Insoluble
Solubility in other solvents	No information available 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

10. STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions
Chemical stability	Stable under normal conditions
Possibility of hazardous reactions	None known
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	None known

11. TOXICOLOGICAL INFORMATION

General Information	Users are advised to consider national Occupational Exposure Limits or other equivalent values.
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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	Low hazard for usual industrial or commercial handling

11.1. Information on toxicological effects

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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.

Target Organ Effects

Lungs

Specific target organ toxicity

May cause respiratory irritation

- Single exposure**Specific target organ toxicity**

May cause damage to organs through prolonged or repeated exposure if inhaled

- Repeated exposure

Lungs

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.

Specific target organ toxicity - Repeated exposure

Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Based on available data, the classification criteria are not met

Persistence and degradability

No data available

Bioaccumulation

No data available.

Mobility in soil

No data available

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Hazardous to the ozone layer No data available

13. DISPOSAL CONSIDERATIONS

Disposal Dispose of in accordance with federal, state and local regulations

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal

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

15. REGULATORY INFORMATION

Global Inventories

Pure substance/mixture Substance

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
Aluminum oxide	1344-28-1	215-691-6	01-211952 9248-35-x xxx 01-211952 9248-35-0	Y	Y	Y	(1)-23 (ENCS)(ISHL)	KE-01012	Y	Y	Y	Y	A

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Legend

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

KECL - Korean Existing and Evaluated Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

TSCA (Toxic Substances Control Act)

DSL (Domestic Substance List)

NDSL (Non-Domestic Substances List)

Japan - ISHL Notifiable Substances

ENCS - Japan Existing and New Chemical Substances

Occupational Safety and Health Act (Industrial Safety and Health Act): This product, labor hazardous material should be notified of the names and the monitoring chemicals.

PRTR and Promotion of Chemical Management Law (PRTR Law): This like the Safety and Health Act and harmful substances, the component corresponding to the dangerous goods and hazardous substances should be displayed the name, etc.,

It does not include the range (wt%).

Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances (CSCL): This product is a priority assessment substance of Chemical Substances Control Law, does not contain a specific chemical substance, the appropriate component in product is not a component corresponding to the first Class I Designated Chemical Substance and the second Class I Designated Chemical Substance PRTR law, within the target range (wt%) as a .

Poisonous and Deleterious Substances Control Act: This product, contains a component corresponding to the Poisonous and Deleterious Substances Control Law, but is does below the range (wt%) as a target.

Fire Service Act: This product does not contain substances at a level for restriction is not due to the Fire Defense Law.

Ship Safety Act: Not applicable.

Aviation Law: Not applicable.

16. OTHER INFORMATION**Prepared by**

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Reason for Revision

This SDS complies with the requirements of JIS Z 7250:2010 and JIS Z 7252:2009 (Japan)

Bibliography

NITE GHS Classified list
Japan Society for occupational health (2015) recommendation of allowable concentrations, etc.
ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value

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)

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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

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End of Safety Data Sheet