



Martinal® TM-2590

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)

Issue Date 31/Jan/2023
Print Date 29/Dec/2025

Revision Number 1.2
Page 1 of 11

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

1.1. Product identifier

Product Name: Martinal® TM-2590
Pure substance/mixture Mixture

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

Recommended Use Flame retardant. Smoke suppressant.
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

Contact E-Mail www.huberadvancedmaterials.com/contact

1.4. Emergency telephone number CHEMTREC: +1 800 424 9300 or International +1 703 527 3887
EU Phone: +49-2271-90.22.78 (Germany)

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.

Safety Data Sheet

Martinal® TM-2590

Issue Date 31/Jan/2023

Print Date 29/Dec/2025

Revision Number 1.2

Page 2 of 11

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
Do not breathe dust
Wear protective gloves/protective clothing/eye protection/face protection

Response IF ON SKIN: Wash with plenty of soap and 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.

Hazards associated with known or reasonably anticipated uses None known.

SECTION 3: Composition/information on ingredients

Pure substance/mixture Mixture

Chemical Name	CAS Number	Weight-%
Aluminum Hydroxide	21645-51-2	-

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.

Safety Data Sheet

Martinal® TM-2590**Issue Date** 31/Jan/2023**Print Date** 29/Dec/2025**Revision Number** 1.2**Page** 3 of 11

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	Signs and symptoms may include coughing, gasping, choking and difficulty breathing.
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 MediaWater 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

Safety Data Sheet

Martinal® TM-2590

Issue Date 31/Jan/2023

Print Date 29/Dec/2025

Revision Number 1.2

Page 4 of 11

- 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** 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
- 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)** Flame retardant.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Aluminum Hydroxide

OSHA

TWA: 15 mg/m³ (Total Dust)

5 mg/m³ (Respirable Dust)

ACGIH

TLV/TWA 8-hr: 1 mg/m³ (respirable fraction)

Canada - Ontario - OEL - TWA EVs

1 mg/m³

Canada - Nova Scotia - OEL - TWA

1 mg/m³ TWA (respirable fraction)

PNEC (Predicted No Effect Concentration)

No information available

DNEL (Derived No Effect Level)

Consumer - oral, long-term - local and systemic 4.74 mg/kg bw/day Worker - inhalative, long-term - local and systemic 10.74 mg/m³

Safety Data Sheet

Martinal® TM-2590

Issue Date 31/Jan/2023

Print Date 29/Dec/2025

Revision Number 1.2

Page 5 of 11

Biological Limit Values	None
8.2. Exposure controls	
Engineering Measures	Ensure adequate ventilation, especially in confined areas. Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
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
Color	White
Odor	Odorless
pH:	Not available
Melting point / Freezing point	Not applicable
Boiling Point	No information available
Freezing Point	Not applicable
Flash Point	Non-combustible
Flammability	Not applicable
Upper flammability limit:	--
Lower flammability limit:	--
Vapor Pressure	Not applicable
Relative Vapor Density	Not applicable
Relative Vapor Density	Not applicable
Density	No data available
Relative Density	2.4 g/cm ³ , 20° C
Water Solubility	Insoluble
Solubility in other solvents	No information available
Partition coefficient	Not applicable Not applicable Product/Substance is inorganic
Autoignition Temperature	Not applicable
Decomposition Temperature	200 °C (392 °F)
Viscosity	Not applicable.
Kinematic viscosity	Not applicable

Safety Data Sheet

Martinal® TM-2590

Issue Date 31/Jan/2023

Print Date 29/Dec/2025

Revision Number 1.2

Page 6 of 11

Explosive Properties	Not applicable
Oxidizing Properties	Not oxidizing
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

Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity	None
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
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.
----------------------------	---

11.1. Information on toxicological effects**Aluminum Hydroxide**

Oral LD50	> 2000 mg/kg Rat
IARC	Not Listed

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.
------------------------	---

Safety Data Sheet

Martinal® TM-2590**Issue Date** 31/Jan/2023**Print Date** 29/Dec/2025**Revision Number** 1.2**Page** 7 of 11

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	Prolonged or repeated contact may dry skin and cause irritation
Skin Sensitization	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
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.
Target Organ Effects	No information available.
Specific target organ toxicity - Single exposure	No information available.
Specific target organ toxicity - Repeated exposure	No information available.
Mixture versus substance information	No information available
Information on Likely Routes of Exposure	
Inhalation	Avoid inhalation of the product
Ingestion	Ingestion is not a likely route of exposure
Skin	Avoid contact with skin and clothing Prolonged exposure may cause skin irritation
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

Safety Data Sheet

Martinal® TM-2590

Issue Date 31/Jan/2023

Print Date 29/Dec/2025

Revision Number 1.2

Page 8 of 11

SECTION 12: Ecological information

12.1. Toxicity Not considered to be harmful to aquatic life

Aluminum Hydroxide

WGK Classification (AwSV) 5220. WGK: nwg

12.2. Persistence and degradability Not readily biodegradable.

12.3. Bioaccumulative potential No data available.

Partition coefficient Not applicable

Bioconcentration factor (BCF) Not 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.

Waste codes Waste codes should be assigned by the user based on the application for which the product was used

Aluminum Hydroxide

European Waste Catalog 060299

WGK Classification (AwSV) 5220. WGK: nwg

Safety Data Sheet

Martinal® TM-2590

Issue Date 31/Jan/2023

Print Date 29/Dec/2025

Revision Number 1.2

Page 9 of 11

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

14.2. 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

Mixture

Chemical Name	CAS Number	EC No	Australia (AIC)	Canada (DSL)	China (IECSC)	Japan	S. Korea (KECL)	Mexico	Thailand (TECI)	New Zealand	Taiwan	Philippines (PICCS)	TSCA: United States
Aluminum Hydroxide	21645-51-2	244-492-7	Y	Y	Y	(1)-17 (ENCS); ISHL	KE-00980	Y	55-1-02595	Y	Y	Y	A

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

US Federal Regulations

EPA

Safety Data Sheet

Martinal® TM-2590

Issue Date 31/Jan/2023

Print Date 29/Dec/2025

Revision Number 1.2

Page 10 of 11

Aluminum Hydroxide

CERCLA

Not listed

SARA 302

Not listed

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 Hydroxide	21645-51-2	N	N	N	N	N

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 HEM.HAMregulatory@huber.com
Issue Date	31/Jan/2023
Print Date	29/Dec/2025
Revision Number	1.2
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) 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)

HUBER

Safety Data Sheet

Martinal® TM-2590

Issue Date 31/Jan/2023

Print Date 29/Dec/2025

Revision Number 1.2

Page 11 of 11

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