



FIRE RETARDANT ADDITIVES

SAFETY DATA SHEET

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03
Canadian Workplace Hazardous Material Information System (WHMIS) 1988 & 2015

Micral® 916

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

1.1. Product identifier

Product Name: Micral® 916
Chemical Name: Aluminum Hydroxide

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

Recommended Use: Flame retardant

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.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

2.1. Classification of the substance or mixture

Physical Hazards: Not classified.

Health Hazards: Not classified

Environmental Hazard: Not classified

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

2.2. Label elements

Symbols/Pictogram: None

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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

Hazards not otherwise classified Not classified.
(HNOC)

SECTION 3: Composition/information on ingredients

Chemical Name	CAS Number	TSCA: United States	Canada (DSL)	Mexico	REACH registration number	OSHA Regulatory Status	WHMIS	Weight-%
Aluminum Hydroxide	21645-51-2	Y	Y	Y	01-211952924-6-39	This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)	Not regulated	100

Legend

X / Y: Complies - / N: Not Listed , Exempt

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 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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.

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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 (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 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

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OSHA - TWA	10 mg/m ³ ; 15 mg/m ³ Total Dust; 5 mg/m ³ Respirable Dust
ACGIH-TWA	1 mg/m ³ (respirable)
ACGIH	8-H TLV-TWA 1 mg/m ³ respirable fraction
Canada - Nova Scotia - OEL - TWA	1 mg/m ³ TWA (respirable fraction)

Biological Limit Values: None

Derived No Effect Level (DNEL) Consumer - oral, long-term - local and systemic 4.74 mg/kg bw/day
Worker - inhalative, long-term - local and systemic 10.74 mg/m³

Predicted No Effect Concentration (PNEC) No information available

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.
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

Odor Odorless

Odor Threshold No information available

pH: 8.4 - 10.2 5% Water suspension

Melting point / Freezing point ca 300 °C / 572 °F (1013 kPa)

Initial Boiling Point 5396 °F (2980 °C) 101,3 kPa

Flash Point: Not applicable.

Evaporation Rate Not applicable.

Flammability (solid, gas) Not applicable

Upper flammability limit:

Lower flammability limit:

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Vapor Pressure	Not applicable
Vapor Density	Not applicable
Relative Density	2.4 g/cm ³ , 20° C
Water Solubility	Insoluble
Solubility in other solvents	No information available
Partition coefficient	Not available
Autoignition Temperature	Not applicable
Decomposition Temperature	392 °F (200 °C)
Viscosity	Not applicable.
Explosive Properties	None
Oxidizing Properties	Not applicable

9.2. Other information

VOC Content (%) 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.

Information on Likely Routes of Exposure

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

Aluminum Hydroxide

Oral LD50 15900 mg/kg Rat

Inhalation LC50 7.6 mg/l 1 hour

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

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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.
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	Not considered to be harmful to aquatic life.
Aluminum Hydroxide CAS Number 21645-51-2 Aquatic toxicity	<p>Crustacea Daphnia Magna (Water Flea) 0.72 mg/l 48 hour pH 7.5 Fish EC50 Pimephales promelas (fathead minnow) 1.16 mg/l pH 7.8 Pimephales promelas (fathead minnow) >218644 1 µg/L 96 hour</p> <p>Chronic Fish LC50: Pimephales promelas (fathead minnow) 145190 1.16 7 day</p> <p>Other LC50 Lymnaea stagnalis >2099 µg/L 30 day EC50 Aeromonas sp 1923 9 µg/L 17 day</p>
Germany - Water Classification (VwVwS) - Annex 3:	5220 : NWG
12.2. Persistence and degradability	Not readily biodegradable.
12.3. Bioaccumulative potential	No data available.
Partition coefficient	Not available
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. Other adverse effects	None known

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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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

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	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

Global Inventories

Chemical Name	CAS Number	EC No	REACH registration number	Australia (AICS)	Canada (DSL)	China (IECSC)	Japan	South Korea (KECL)	Mexico	New Zealand	Philippines (PICCS)	Taiwan	TSCA: United States
Aluminum Hydroxide	21645-51-2	244-492-7	01-211952924-6-39	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Legend

X / Y: Complies - / N: Not Listed Exempt

US Federal Regulations**EPA****CERCLA/SARA RQ**

Not listed

SARA Section 304 CERCLA Hazardous Substances (RQ)

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Not regulated

CAA (Clean Air Act)

Not regulated

CWA (Clean Water Act)

Not regulated

U.S. State Right-to-Know Regulations

Chemical Name	CAS Number	California Proposition 65	Massachusetts	Minnesota	New Jersey	Pennsylvania
Aluminum Hydroxide	21645-51-2	--	--	--	--	--

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

This product contains no chemicals at levels known to the State of California to cause cancer or reproductive hazards.

CANADA

WHMIS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

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SECTION 16: Other information

Prepared by	Huber Engineered Materials (HEM) Global Regulatory Affairs regulatory.affairs@huber.com
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Reason for Version	OSHA (Occupational Safety and Health Administration of the US Department of Labor). May 25, 2012.
Training Advice	Do not handle until all safety precautions have been read and understood.
Abbreviations and acronyms	<p>ACRONYMS: INTERNATIONAL:</p> <p>ADR: International Carriage of Dangerous Goods by Road.</p> <p>BOD: Biochemical Oxygen Demand.</p> <p>CLP: Classification, Labeling and Packaging.</p> <p>COD: Chemical Oxygen Demand.</p> <p>DN(M)EL : Derived Non(Minimum) Effect Level - PNEC : Predicted No Effect Level</p> <p>D.O.T.: U.S. Department of Transportation.</p> <p>ICAO International Civil Aviation Organization.</p> <p>IATA: International Air Transport Association.</p> <p>IARC: International Agency for Research on Cancer.</p> <p>IMO: International Maritime Organization.</p> <p>IMDG: International Maritime Dangerous Goods.</p> <p>INCI: International Nomenclature of Cosmetic Ingredients.</p> <p>OES: Occupational Exposure Standard.</p> <p>OR: EU REACH Only Representative.</p> <p>PPE: Personal protection equipment.</p> <p>RID: International Carriage by Rail.</p> <p>SCBA: self contained breathing apparatus.</p> <p>STEL (Short Term Exposure Limit) SVHC: Substances of Very High Concern for Authorization</p> <p>TLV-STEL: Threshold Limit Values - Short Term Exposure Limits.</p> <p>TWA: Time Weighted Averages.</p> <p>North America:</p> <p>CERCLA RQ: US EPA Comprehensive Environmental, Response, and Liability Act Reportable Quantity.</p> <p>CERCLA: US EPA Comprehensive Environmental Response, Compensation, and Liability Act of 1980.</p> <p>CONEG: Conference of North Eastern Governors.</p> <p>NIOSH/MSHA - National Institute for Occupational Safety and Health/Mine Safety and Health Administration.</p> <p>SARA: Superfund Amendments and Reauthorization Act (US EPA).</p> <p>TDG: Canada Transport of Dangerous Goods.</p> <p>WHMIS: Canada's Workplace Hazardous Materials Information System.</p>

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End of Safety Data Sheet