



## 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® 632

Issue Date: 01/Jun/2015  
Print Date: 09/Nov/2016

Revision Number: 1.2  
Page 1 of 9

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

#### 1.1. Product identifier

**Product Name:** Micral® 632  
**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](http://www.hubermaterials.com)

**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

**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

# Safety Data Sheet

## Micral® 632

Issue Date: 01/Jun/2015  
Print Date: 09/Nov/2016

Revision Number: 1.2  
Page 2 of 9

**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.

Issue Date: 01/Jun/2015  
Print Date: 09/Nov/2016

Revision Number: 1.2  
Page 3 of 9

**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

# Safety Data Sheet

## Micral® 632

Issue Date: 01/Jun/2015

Print Date: 09/Nov/2016

Revision Number: 1.2

Page 4 of 9

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

**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

<b>Eye/Face Protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin and Body Protection</b>	Wear suitable protective clothing.
<b>Hand protection</b>	For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.
<b>Hand Protection</b>	For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.
<b>Respiratory Protection</b>	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:**

Issue Date: 01/Jun/2015  
 Print Date: 09/Nov/2016

Revision Number: 1.2  
 Page 5 of 9

Vapor Pressure	Not applicable
Vapor Density	Not applicable
Relative Density	2.4 g/cm <sup>3</sup> , 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

Issue Date: 01/Jun/2015  
 Print Date: 09/Nov/2016

Revision Number: 1.2  
 Page 6 of 9

<b>Skin Corrosion/Irritation</b>	Prolonged or repeated contact may dry skin and cause irritation
<b>Skin Sensitization</b>	Based on available data, the classification criteria are not met
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Reproductive toxicity:</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity - Single exposure</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity - Repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Mixture versus substance information</b>	No information available.

## SECTION 12: Ecological information

<b>12.1. Ecotoxicity</b>	Not considered to be harmful to aquatic life.
<b>Aluminum Hydroxide</b>	
CAS Number 21645-51-2	
<b>Aquatic toxicity</b>	
	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
	Chronic
	Fish LC50: Pimephales promelas (fathead minnow) 145190 1.16 7 day
	Other
	LC50 Lymnaea stagnalis >2099 µg/L 30 day
	EC50 Aeromonas sp 1923 9 µg/L 17 day
<b>Germany - Water Classification (VwVwS) - Annex 3: 5220 : NWG</b>	
<b>12.2. Persistence and degradability</b>	Not readily biodegradable.
<b>12.3. Bioaccumulative potential</b>	No data available.
<b>Partition coefficient</b>	Not available
<b>Bioconcentration factor (BCF)</b>	Not available.
<b>12.4. Mobility in soil</b>	None.
<b>12.5. Results of PBT and vPvB assessment</b>	This substance does not meet the criteria for classification as PBT or vPvB.
<b>12.6. Other adverse effects</b>	None known

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

# Safety Data Sheet

## Micral® 632

Issue Date: 01/Jun/2015  
Print Date: 09/Nov/2016

Revision Number: 1.2  
Page 7 of 9

<b>Disposal Methods</b>	Disposal should be in accordance with applicable regional, national and local laws and regulations.
<b>Contaminated Packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>Waste codes</b>	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)**

<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

<b>14.1. UN number</b>	None
<b>14.2. UN proper shipping name</b>	None
<b>14.3. Transport hazard class(es)</b>	None
<b>14.4. Packing group</b>	None
<b>14.5. Environmental hazards</b>	No
<b>14.6. Special precautions for user</b>	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)**

HUBER

# Safety Data Sheet

## Micral® 632

Issue Date: 01/Jun/2015  
Print Date: 09/Nov/2016

Revision Number: 1.2  
Page 8 of 9

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



Issue Date: 01/Jun/2015  
 Print Date: 09/Nov/2016

Revision Number: 1.2  
 Page 9 of 9

### SECTION 16: Other information

<b>Prepared by</b>	Huber Engineered Materials (HEM) Global Regulatory Affairs regulatory.affairs@huber.com
<b>Issue Date:</b>	01/Jun/2015
<b>Print Date:</b>	09/Nov/2016
<b>Reason for Version</b>	OSHA (Occupational Safety and Health Administration of the US Department of Labor). May 25, 2012.
<b>Training Advice</b>	Do not handle until all safety precautions have been read and understood.
<b>Abbreviations and acronyms</b>	<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>

**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**