FIRE RETARDANT ADDITIVES

Safety Data Sheet

Micral® 916

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 COMMISSION REGULATION (EU) No. 2015/830

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

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

1.1. Product identifier

Product Name: Micral® 916

Chemical Name Aluminum Hydroxide

Chemical Name	CAS Number	EC No	REACH registration number	(CLP) Regulation (EC 1272/2008)	Weight-%
Aluminum Hydroxide	21645-51-2	244-492-7	01-2119529246-39	Not regulated	100

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 Finland OY
Telakkatie 5
FIN-49460 Hamina
Tel: +358 207 913 500
Fax: +358 207 913 502

Internet www.hubermaterials.com

E-mail huber.europe@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

Single Substance or Mixture Substance

(CLP) Regulation (EC 1272/2008) Not regulated

Hazards identification

Physical Hazard Not classified

Health Hazards Not classified

Environmental Hazard Not classified

Specific Hazards Arising from See Section 11 for more information.

the Chemical

2.2. Label elements

Symbols/Pictogram None

Signal Word None

Hazard Statements This product is not classified as hazardous according to the UN GHS guideline and labeling is not required
This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Precautionary Statements

Prevention Employ good industrial hygiene practice
Wash hands thoroughly after handling

Response IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
IF ON SKIN: Wash with plenty of soap and water

Storage Keep in a dry place
Store away from incompatible materials

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

2.3. Other hazards No information available.

SECTION 3: Composition/information on ingredients

3.1. Substances Substance

Chemical Name	CAS Number	EC No	REACH registration number	(CLP) Regulation (EC 1272/2008)	Weight-%	Annex
Aluminum Hydroxide	21645-51-2	244-492-7	01-2119529246-39	Not regulated	100	--

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.
Notes to Physician	Treat symptomatically.
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 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
CAS Number 21645-51-2

ACGIH-TWA	1 mg/m³ (respirable)
ACGIH	8 hour TLV-TWA 1 mg/m³ Respirable dust
ACGIH	8-H TLV-TWA 1 mg/m³ respirable fraction
OSHA - TWA	10 mg/m³; 15 mg/m³ Total Dust; 5 mg/m³ Respirable Dust
OSHA - TWA	10 mg/m³ (total dust) 5 mg/m³ (respirable fraction)
Austria	5 mg/m³
Austria	10 mg/m³
Finland	TWA 10 mg/m³ Respirable dust
France - OEL - TWAs	Not established (Non établi)
France - OEL - STELs	Not established (Non établi)
Poland - OEL - TWA	2.5 mg/m³ NDS (inhalable dust and fume); 1.2 mg/m³ NDS (respirable dust and fume)
Slovak Republic - OEL - TWA	1.5 mg/m³
Sweden	8hr 1 mg/m³ (som Al)
Switzerland	TWA: 3 mg/m³
United Kingdom	10 mg.m-3 (inhalable); 4 mg.m-3 (respirable)

Biological Limit Values:
None

Recommended monitoring procedures
Refer also to national guidance documents for information on currently recommended monitoring procedures

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.
Respiratory Protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
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:	
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Relative Density	2.4 g/cm3, 20° C
Water Solubility	Insoluble
Solubility in other solvents	No information available
Partition coefficient	No information 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	> 2000 mg/kg Rat
Inhalation LC50	Rat > 2.3 mg/l (Al_2O_3) Aerosol Highest achievable concentration.

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	No information available
Serious eye damage/eye irritation	Non-irritant Rabbit
Skin Corrosion/Irritation	Non-irritant Rabbit
Skin Sensitization	Based on available data, the classification criteria are not met Not a skin sensitizer Guinea pig
Mutagenicity	In vitro mutagenicity test : Not genotoxic in bacteria and mammalian cell systems. In vivo mutagenicity tests: Mutagenicity (micronucleus test) Rat Negative (weight of evidence approach)
Germ cell mutagenicity	No information available.
Reproductive Effects	Based on available data, the classification criteria are not met.
Reproductive toxicity:	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity -	Not classified.

Single exposure

Specific target organ toxicity - Repeated exposure No information available.

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

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

Germany - Water Classification (VwVwS) - Annex 3: 5220 : 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 No information available

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No information available.

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 No information available

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

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

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global Inventories

Single Substance or Mixture Substance

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	01-2119529246-39	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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

15.2. Chemical safety assessment A Chemical Safety Assessment has been carried out for this substance

SECTION 16: Other information

Reason for Revision This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 & COMMISSION REGULATION (EU) No. 2015/830
Issue Date: 01/Jun/2015
Revision Number: 1.2.

Prepared by Huber Engineered Materials Global Regulatory Affairs
email: regulatory.affairs@huber.com.

(CLP) Regulation (EC 1272/2008) Not regulated

Labeling

Symbols/Pictogram	None
Signal Word	None
Full text of H-Statements referred to under section 3	None
Abbreviations and acronyms	ACRONYMS: INTERNATIONAL: ADR: International Carriage of Dangerous Goods by Road. BOD: Biochemical Oxygen Demand. CLP: Classification, Labeling and Packaging. COD: Chemical Oxygen Demand. DN(M)EL : Derived Non(Minimum) Effect Level - PNEC : Predicted No Effect Level D.O.T.: U.S. Department of Transportation. ICAO International Civil Aviation Organization. IATA: International Air Transport Association. IARC: International Agency for Research on Cancer. IMO: International Maritime Organization. IMDG: International Maritime Dangerous Goods. INCI: International Nomenclature of Cosmetic Ingredients. OES: Occupational Exposure Standard. OR: EU REACH Only Representative. PPE: Personal protection equipment. RID: International Carriage by Rail. SCBA: self contained breathing apparatus. STEL (Short Term Exposure Limit) SVHC: Substances of Very High Concern for Authorization TLV-STEL: Threshold Limit Values - Short Term Exposure Limits. TWA: Time Weighted Averages. North America: CERCLA RQ: US EPA Comprehensive Environmental, Response, and Liability Act Reportable Quantity. CERCLA: US EPA Comprehensive Environmental Response, Compensation, and Liability Act of 1980. CONEG: Conference of North Eastern Governors. NIOSH/MSHA - National Institute for Occupational Safety and Health/Mine Safety and Health Administration. SARA: Superfund Amendments and Reauthorization Act (US EPA). TDG: Canada Transport of Dangerous Goods. WHMIS: Canada's Workplace Hazardous Materials Information System.

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