SAFETY DATA SHEET

1. Identification

Product identifier **LAPONITE-XL 21 XR**

Other means of identification Not available.

Recommended use Laponite® products are used to control viscosity and flow properties in water based formulations such as toothpaste, paint, personal care and household cleaning products. Laponite® can impart shear sensitive viscosity and improve syneresis control. Laponite® products are also used to produce antistatic coatings.

Recommended restrictions None known

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Address BYK Additives Inc.
1212 Church Street, Gonzales
TX 78629 USA

Telephone number +1 (830) 672 2891

Website www.byk.com

e-mail address MSDSInfo.BYK.Additives@altana.com

Emergency number CHEMTREC (International): +1 (703) 527 3887
CHEMTREC (US): (800) 424 - 9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The substance does not meet the criteria for classification.

Precautionary statement

Prevention Not available.

Response Not available.

Storage Not available.

Disposal Not available.

Hazard(s) not otherwise classified (HNOC) Material can be slippery when wet.

Supplemental information None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Lithium magnesium sodium fluoride silicate		64060-48-6	100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation If dust from the material is inhaled, remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist.

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

Eye contact Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur. If ingestion of a large amount does occur, seek medical attention.

Most important symptoms/effects, acute and delayed	None known. Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. No hazards which require special first aid measures.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	The product itself does not burn. No unusual fire or explosion hazards noted. Material can be slippery when wet.
Special protective equipment and precautions for firefighters	Wear self-contained breathing apparatus and protective clothing.
Fire fighting equipment/instructions	No unusual fire or explosion hazards noted.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted. Non-combustible, substance itself does not burn. Material can be slippery when wet

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Avoid inhalation of dust from the spilled material. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Collect dust using a vacuum cleaner equipped with HEPA filter. Minimize dust generation and accumulation. Following product recovery, flush area with water Sweep up or vacuum up spillage and collect in suitable container for disposal. Contaminated surfaces will be extremely slippery.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Do not flush into surface water. Do not let product enter drains.

7. Handling and storage

Precautions for safe handling	Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust from this material. Avoid contact with skin and eyes. In case of insufficient ventilation, wear suitable respiratory equipment. Practice good housekeeping.
Conditions for safe storage, including any incompatibilities	Avoid dust formation. Keep container tightly closed. Store in a well-ventilated place. Guard against dust accumulation of this material. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Additional components	Type	Value	Form
General dust (n/a)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
	TWA	5 mg/m3	Respirable fraction.
		15 mppcf	Respirable fraction.
		50 mppcf	Total dust.
		15 mg/m3	Total dust.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields. Use tight fitting goggles if dust is generated.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Use protective skin cream before handling the product.
Other	Wear suitable protective clothing. Normal work clothing (long sleeved shirts and long pants) is recommended.
Respiratory protection	Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Wear a dust mask if dust is generated above exposure limits.
Thermal hazards	None known.
General hygiene considerations	Do not breathe dust. Avoid contact with eyes. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Powder.
Physical state	Solid.
Form	Powder.
Color	White.
Odor	Odorless.
Odor threshold	Not applicable
pH	9.7 , 2% aqueous dispersion
Melting point/freezing point	1652 °F (900 °C) , fuses / Not applicable
Initial boiling point and boiling range	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable
Flammability limit - upper (%)	Not applicable
Explosive limit - lower (%)	Not applicable
Explosive limit - upper (%)	Not applicable
Vapor pressure	Not applicable
Vapor density	Not applicable
Relative density	2.53
Relative density temperature	68 - 69.8 °F (20 - 21 °C) OECD method 109
Solubility(ies)	
Solubility (water)	Insoluble, forms a colloid gel
Auto-ignition temperature	Not applicable
Decomposition temperature	Not applicable
Viscosity	Not applicable
Other information	
Bulk density	700.00 - 1300.00 kg/m³
Percent volatile	0 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.
Conditions to avoid	Avoid spread of dust. Contact with incompatible materials. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Exposure to air or moisture over prolonged periods.
Incompatible materials	None known. Incompatible with strong acids and oxidizing agents.

Hazardous decomposition products No dangerous reaction known under conditions of normal use. No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation Inhalation of dusts may cause respiratory irritation.

Skin contact No adverse effects due to skin contact are expected.

Eye contact Dust in the eyes will cause irritation.

Ingestion Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
LAPONITE-XL 21 XR		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 1660 mg/m3
Oral		
LD50	Rat	> 2000 mg/kg

Components	Species	Test Results
Lithium magnesium sodium fluoride silicate (CAS 64060-48-6)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg Similar substance
PII	Rabbit	0.5
Inhalation		
LC50	Rat	> 1.66 mg/l, 4 hours 'Discriminating dose' - maximum achievable dosing level
Oral		
LD50	Rat	> 2000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Not classified. Based on available data, the classification criteria are not met.
Repeated exposure may cause skin dryness or cracking.

Serious eye damage/eye irritation Not classified. Based on available data, the classification criteria are not met.
Dust in the eyes will cause irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization OECD 429 Based on available data, the classification criteria are not met.

Germ cell mutagenicity OECD 471 Not classified.
OECD 476 Not classified.
OECD 476 Not classified.
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Based on available data, the classification criteria are not met.
This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified. Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure Not classified. Based on available data, the classification criteria are not met.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
LAPONITE-XL 21 XR			
Aquatic			
Algae	EC50	Algae	100 mg/l, 72 hours
Crustacea	LC50	Daphnia	100 mg/l, 24 hours
			100 mg/l, 48 hours
Fish	LC50	Fish	100 mg/l, 96 hours

Components		Species	Test Results
Lithium magnesium sodium fluoride silicate (CAS 64060-48-6)			
Aquatic			
Algae	EC50	Algae	> 100 mg/l, 72 hours
Crustacea	LC50	Daphnia	> 100 mg/l, 24 hours mortality
			> 100 mg/l, 48 hours mobility
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	> 100 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability The product solely consists of inorganic compounds which are not biodegradable. The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential Does not bioaccumulate.

Mobility in soil Not applicable.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. Not expected to be harmful to aquatic organisms.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Material should be recycled if possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Dispose of in accordance with local regulations. Can be landfilled, when in compliance with local regulations.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations All components are on the U.S. EPA TSCA Inventory List.
This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other information, including date of preparation or last revision

Issue date May-12-2015

Version # 01

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.
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