

BIOSTRENGTH® 700 Melt Strength Additive**1. PRODUCT AND COMPANY IDENTIFICATION****Company**

Arkema Inc.
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King of Prussia, Pennsylvania 19406

Arkema Coating Resins

Customer Service Telephone Number: (877) 331-6696
(Monday through Friday, 8:00 AM to 5:00 PM EST)

Emergency Information

Transportation: CHEMTREC: (800) 424-9300
(24 hrs., 7 days a week)
Medical: Rocky Mountain Poison Center: (866) 767-5089
(24 hrs., 7 days a week)

Product Information

Product name: BIOSTRENGTH® 700 Melt Strength Additive
Synonyms: Not available
Molecular formula: Mixture
Chemical family: acrylic polymer
Product use: Impact modifier

2. HAZARDS IDENTIFICATION**Emergency Overview**

Color: white
Physical state: solid
Form: powder
Odor: none

***Classification of the substance or mixture:**
See Supplemental Hazard Statements below.

GHS-Labeling

Signal word: **Warning**

Hazard statements:

This material is considered hazardous under the OSHA Hazard Communication Standard criteria, based on hazard(s) not otherwise classified.

Supplemental Hazard Statements:

May form combustible dust concentrations in air. Processing may release vapors and/or fumes which cause eye, skin and respiratory tract irritation.

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Supplemental information:

Potential Health Effects:

The product, in the form supplied, is not anticipated to produce significant adverse human health effects. Contains high molecular weight polymer(s). Effects due to processing releases: Irritating to eyes, respiratory system and skin. Prolonged or repeated exposure may cause: headache, drowsiness, nausea, weakness, (severity of effects depends on extent of exposure).

Other:

Handle in accordance with good industrial hygiene and safety practice. (powder) Mechanical irritation effects from dust exposure are possible at ambient temperature. This product may release fume and/or vapor of variable composition depending on processing time and temperature. Note: The hazard classification is based on the proportion of the surfactant that is extractable in aqueous media.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Wt/Wt	GHS Classification**
2-Propenoic acid, 2-methyl-, methyl ester, polymer with butyl 2-propenoate	25852-37-3	>= 95.3 - <= 98.6 %	Not classified
Sulfuric acid, mono-C10-16-alkyl esters, sodium salts	68585-47-7	>= 1 - < 2 %	H228, H302, H315, H318, H335, H402
Water	7732-18-5	>= 0.1 - < 2 %	Not classified

**For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

Inhalation:

If inhaled, remove victim to fresh air.

Skin:

In case of contact, immediately flush skin with plenty of water. If molten polymer gets on the skin, cool rapidly with cold water. Do not peel solidified product off the skin. Obtain medical treatment for thermal burns. Remove material from clothing. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eyes:

Immediately flush eye(s) with plenty of water. Obtain medical treatment for thermal burns.

Ingestion:

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If swallowed, DO NOT induce vomiting. Get medical attention. Never give anything by mouth to an unconscious person.

5. FIREFIGHTING MEASURES**Extinguishing media (suitable):**

Water spray

Extinguishing media (unsuitable):

High volume water jet

Protective equipment:

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand / NIOSH approved or equivalent).

Further firefighting advice:

Do not use a solid stream of water.

A solid stream of water can cause a dust explosion.

Fire fighting equipment should be thoroughly decontaminated after use.

Fire and explosion hazards:

Dust clouds generated during handling and/or storage can form explosive mixtures with air. Dust explosion characteristics vary with the particle size, particle shape, moisture content, contaminants, and other variables.

Note: Check that all equipment is properly grounded and installed to satisfy electrical classification requirements. As with any dry material, pouring this material or allowing it to free-fall or to be conveyed through chutes or pipes can accumulate and generate electrostatic sparks, potentially causing ignition of the material itself, or of any flammable materials which may come into contact with the material or its container.

When burned, the following hazardous products of combustion can occur:

Carbon oxides

Sulphur oxides

Hazardous organic compounds

6. ACCIDENTAL RELEASE MEASURES**In case of spill or leak:**

Prevent further leakage or spillage if you can do so without risk. Evacuate area of all unnecessary personnel. Ventilate the area. Eliminate all ignition sources. Avoid dust formation and dispersal of dust in the air. Wet down (dampen) the spilled material with water. Sweep or scoop up using non-sparking tools and place into suitable properly labeled containers for prompt disposal. The sweepings should be wetted down further with water. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Implement workplace practices such that dusts are not allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

BIOSTRENGTH® 700 Melt Strength Additive**7. HANDLING AND STORAGE****Handling****General information on handling:**

Avoid breathing dust.
Avoid breathing processing fumes or vapors.
Keep away from heat, sparks and flames.
Keep container closed.
Avoid creating dust in handling, transfer or clean up.
Prevent dust accumulation.
Implement routine housekeeping practices to ensure that dusts do not accumulate on surfaces.
Check that all equipment is properly grounded and installed to satisfy electrical classification requirements.
Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations.
Container hazardous when empty.
Follow label warnings even after container is emptied.
RESIDUAL DUSTS MAY EXPLODE ON IGNITION.
DO NOT CUT, DRILL, GRIND, OR WELD ON OR NEAR THIS CONTAINER.
Improper disposal or reuse of this container may be dangerous and/or illegal.
Emptied container retains product residue.
Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin, and clothing.

Storage**General information on storage conditions:**

Keep in a dry, cool place. Store in closed containers, in a secure area to prevent container damage and subsequent spillage. Store in well ventilated area away from heat and sources of ignition such as flame, sparks and static electricity. Ensure that all storage and handling equipment is properly grounded and installed to satisfy electrical classification requirements. Static electricity may accumulate when transferring material. All metal and groundable storage containers, including but not limited to drums, cylinders, Returnable Intermodal Bulk Containers (RIBCs) and Class C Flexible Intermodal Bulk Containers (FIBCs) must be bonded and grounded during filling and emptying operations. Observe all federal, state and local regulations and National Fire Protection Association (NFPA) Codes, which pertain to the specific local conditions of storage and use, including NFPA 654.

Storage stability – Remarks:

Stable under recommended storage conditions.

Storage incompatibility – General:

Store separate from:

Strong bases

Reducing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Airborne Exposure Guidelines:****Particles Not Otherwise Specified / Nuisance Dust (Proprietary)**

US. ACGIH Threshold Limit Values

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Form:	Inhalable particles.
Time weighted average	10 mg/m3
Form:	Respirable particles.
Time weighted average	3 mg/m3

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

Form:	Respirable fraction.
PEL:	5 mg/m3

Form:	Total dust
PEL:	15 mg/m3

US. OSHA Table Z-3 (29 CFR 1910.1000)

Form:	Respirable fraction.
Time weighted average	15millions of particles per cubic foot of air

Form:	Total dust
Time weighted average	50millions of particles per cubic foot of air

Form:	Respirable fraction.
Time weighted average	5 mg/m3

Form:	Total dust
Time weighted average	15 mg/m3

Only those components with exposure limits are printed in this section. Limits with skin contact designation above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required. Limits with a sensitizer designation above mean that exposure to this material may cause allergic reactions.

Engineering controls:

Investigate engineering techniques to reduce exposures below airborne exposure limits or to otherwise reduce exposures. Provide ventilation if necessary to minimize exposures or to control exposure levels to below airborne exposure limits (if applicable see above).If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Check that all dust control equipment such as local exhaust ventilation, material transport systems, and air-material separation devices involved in handling this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.Isolation devices may be appropriate to prevent propagation from one unit to another.Ensure that dust-handling systems are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).Consult ACGIH ventilation manual, NFPA Standard 91 and NFPA Standard 654 for design of exhaust system and safe handling.

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Respiratory protection:

Avoid breathing dust. Avoid breathing processing fumes or vapors. Where airborne exposure is likely or airborne exposure limits are exceeded (if applicable, see above), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components and substances released during processing. Consult respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure or where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Skin protection:

Processing of this product releases vapors or fumes which may cause skin irritation. Minimize skin contamination by following good industrial hygiene practice. Wearing protective gloves is recommended. Wash hands and contaminated skin thoroughly after contact with processing fumes or vapors. Wash thoroughly after handling.

Eye protection:

Use good industrial practice to avoid eye contact. Processing of this product releases vapors or fumes which may cause eye irritation. Where eye contact may be likely, wear chemical goggles and have eye flushing equipment available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	white
Physical state:	solid
Form:	powder
Odor:	none
Odor threshold:	No data available
Flash point	Not applicable
Auto-ignition temperature:	878 °F (470 °C)
Lower flammable limit (LFL):	No data available
Upper flammable limit (UFL):	No data available
pH:	Not applicable
Density:	1.17 g/cm ³ (77 °F (25 °C))
Specific Gravity (Relative density):	1.17 (77 °F(25 °C))Water=1 (liquid)
Vapor pressure:	Not applicable

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Vapor density:	Not applicable
Boiling point/boiling range:	Not applicable
Freezing point:	Not applicable
Melting point/range:	No data available
Evaporation rate:	Not relevant
Solubility in water:	insoluble
Oil/water partition coefficient:	No data available
Thermal decomposition	572 °F (300 °C)
Flammability:	See GHS Classification in Section 2

10. STABILITY AND REACTIVITY

Stability:
The product is stable under normal handling and storage conditions.

Hazardous reactions:
Hazardous polymerization does not occur.

Materials to avoid:
Strong bases
Reducing agents

Conditions / hazards to avoid:
See HANDLING AND STORAGE section of this MSDS for specified conditions. See Hazardous Decomposition Products below.

Hazardous decomposition products:

Thermal decomposition giving flammable and toxic products:
Carbon oxides
Methyl methacrylate
Acrylates
Sulphur oxides
Hazardous organic compounds

11. TOXICOLOGICAL INFORMATION

Data on this material and/or its components and/or a similar material are summarized below.

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Data for 2-Propenoic acid, 2-methyl-, methyl ester, polymer with butyl 2-propenoate (25852-37-3)

Other information

The information presented is from representative materials in this chemical class. The results may vary depending on the test substance.

Effects due to processing releases or residual monomer:

Possible cross sensitization with other acrylates and methacrylates

Data for Sulfuric acid, mono-C10-16-alkyl esters, sodium salts (68585-47-7)

Acute toxicity

Oral:

Harmful if swallowed. (Rat) LD50 1,830 mg/kg.

Skin Irritation:

Causes skin irritation. (rabbit) (4 h) (similar material)

Eye Irritation:

Causes serious eye damage. (rabbit) (similar material)

Repeated dose toxicity

Subchronic oral administration to rat / affected organ(s): Gastrointestinal tract, liver / signs: Local effects due to an irritant effect, increased organ weight / (similar material)

Genotoxicity

Assessment in Vitro:

No genetic changes were observed in laboratory tests using: bacteria, animal cells, (data for a similar material)

12. ECOLOGICAL INFORMATION

Chemical Fate and Pathway

Data on this material and/or its components are summarized below.

Data for Sulfuric acid, mono-C10-16-alkyl esters, sodium salts (68585-47-7)

Biodegradation:

Readily biodegradable. (28 d) biodegradation > 60 % / similar material

Octanol Water Partition Coefficient:

log Pow < 4

Ecotoxicology

Data on this material and/or its components are summarized below.

Data for Sulfuric acid, mono-C10-16-alkyl esters, sodium salts (68585-47-7)

Aquatic toxicity data:

Toxic. Leuciscus idus (Golden orfe) 48 h LC50 = 9.3 mg/l (nominal concentrations reported, similar material)

Aquatic invertebrates:

Toxic. Ceriodaphnia dubia 48 h EC50 1.4 mg/l

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Algae:

Harmful. Pseudokirchneriella subcapitata (microalgae) 72 h EC50 60 mg/l

13. DISPOSAL CONSIDERATIONS

Waste disposal:

Where possible recycling is preferred to disposal or incineration. If recycling is not an option, incinerate or dispose of in accordance with federal, state, and local regulations. Pigmented, filled and/or solvent laden product may require special disposal practices in accordance with federal, state and local regulations. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

14. TRANSPORT INFORMATION

US Department of Transportation (DOT): not regulated

International Maritime Dangerous Goods Code (IMDG): not regulated

15. REGULATORY INFORMATION

Chemical Inventory Status

EU. EINECS	EINECS	Conforms to
United States TSCA Inventory	TSCA	The components of this product are all on the TSCA Inventory.
Canadian Domestic Substances List (DSL)	DSL	All components of this product are on the Canadian DSL.
China. Inventory of Existing Chemical Substances in China (IECSC)	IECSC (CN)	Conforms to
Japan. ENCS - Existing and New Chemical Substances Inventory	ENCS (JP)	Does not conform
Japan. ISHL - Inventory of Chemical Substances	ISHL (JP)	Does not conform
Korea. Korean Existing Chemicals Inventory (KECI)	KECI (KR)	Conforms to
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	PICCS (PH)	The mixture contains a polymer. The monomers for this polymer have been notified., Conforms to
Australia Inventory of Chemical Substances (AICS)	AICS	Conforms to

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United States – Federal Regulations

SARA Title III – Section 302 Extremely Hazardous Chemicals:

The components in this product are either not SARA Section 302 regulated or regulated but present in negligible concentrations.

SARA Title III - Section 311/312 Hazard Categories:

Fire Hazard

SARA Title III – Section 313 Toxic Chemicals:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantity (RQ):

The components in this product are either not CERCLA regulated, regulated but present in negligible concentrations, or regulated with no assigned reportable quantity.

United States – State Regulations

New Jersey Right to Know

No components are subject to the New Jersey Right to Know Act.

Pennsylvania Right to Know

<u>Chemical Name</u>	<u>CAS-No.</u>
2-Propenoic acid, 2-methyl-, methyl ester, polymer with butyl 2-propenoate	25852-37-3

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive defects.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

- H228 Flammable solid.
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H335 May cause respiratory irritation.
- H402 Harmful to aquatic life.

Miscellaneous:

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Other information: Refer to National Fire Protection Association (NFPA) Code 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

Latest Revision(s):

Reference number: 000000053562
Date of Revision: 04/25/2015
Date Printed: 04/25/2015

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