1. PRODUCT AND COMPANY IDENTIFICATION

Company

Arkema Inc.
900 First Avenue
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: ENCOR® 163S
Synonyms: Not available
Molecular formula: Complex mixture
Chemical family: Polymer latex
Product use: Binder, For Industrial Use Only.

2. HAZARDS IDENTIFICATION

Emergency Overview
Color: white
Physical state: liquid
Form: aqueous dispersion
Odor: slightly acrylic

***Classification of the substance or mixture:**
Skin sensitisation, Category 1, H317
Carcinogenicity, Category 1A, H350

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

GHS-Labelling

Hazard pictograms:

Signal word: **Danger**

Hazard statements:

H317 : May cause an allergic skin reaction.
H350 : May cause cancer.

Precautionary statements:

Prevention:
P201 : Obtain special instructions before use.
P202 : Do not handle until all safety precautions have been read and understood.
P261 : Avoid breathing gas/mist/vapours/spray.
P272 : Contaminated work clothing should not be allowed out of the workplace.
P280 : Wear protective gloves.
P281 : Use personal protective equipment as required.

Response:
P302 + P352 : IF ON SKIN: Wash with plenty of soap and water.
P308 + P313 : IF exposed or concerned: Get medical advice/ attention.
P333 + P313 : If skin irritation or rash occurs: Get medical advice/ attention.
P363 : Wash contaminated clothing before reuse.

Storage:
P405 : Store locked up.

Disposal:
P501 : Dispose of contents/ container to an approved waste disposal plant.

Supplemental information:

Potential Health Effects:
If swallowed, may cause gastrointestinal disturbances. Contains high molecular weight polymer(s).

Other:
Dried product may stick to the skin causing irritation upon removal. Contains high molecular weight polymer(s) and low levels of residual formaldehyde. Regulated by OSHA as a carcinogen. Substance/mixture that may release between 0.1 and 0.5 ppm formaldehyde during use

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Wt/Wt	GHS Classification**
Acrylate based polymer	Proprietary*	>= 30 - < 60 %	Not classified
Water	7732-18-5	>= 30 - < 60 %	Not classified
Formaldehyde	50-00-0	< 0.1 %	H301, H311, H331, H314, H318, H317, H335, H350

*The specific chemical identity is withheld because it is trade secret information of Arkema Inc.

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

4. FIRST AID MEASURES

4.1. Description of necessary first-aid measures:

Inhalation:
If inhaled, remove victim to fresh air.

Skin:
In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eyes:
Immediately flush eye(s) with plenty of water.

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

4.2. Most important symptoms/effects, acute and delayed:

For most important symptoms and effects (acute and delayed), see Section 2 (Hazard Statements and Supplemental Information) and Section 11 (Toxicology Information) of this SDS.

4.3. Indication of immediate medical attention and special treatment needed, if necessary:

Unless otherwise noted in Notes to Physician, no specific treatment noted; treat symptomatically.

5. FIREFIGHTING MEASURES

Extinguishing media (suitable):
Water spray, Carbon dioxide (CO2), Foam, Dry chemical

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:
Fire fighting equipment should be thoroughly decontaminated after use.

Fire and explosion hazards:
When burned, the following hazardous products of combustion can occur:
Carbon oxides
Nitrogen oxides
Hazardous organic compounds

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, Emergency procedures, Methods and materials for containment/clean-up:
Prevent further leakage or spillage if you can do so without risk. Ventilate the area. Avoid generation of vapors. Contain and collect spillage with non-combustible absorbent material such as clean sand, earth, diatomaceous earth or non-acidic clay and place into suitable properly labeled containers for prompt disposal. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. 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.

Protective equipment:
Appropriate personal protective equipment is set forth in Section 8.

7. HANDLING AND STORAGE

Handling

General information on handling:
Do not breathe vapor or mist.
Do not taste or swallow.
Do not get in eyes, on skin, or on clothing.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.
Emptied container retains vapor and product residue.
Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

Storage

General information on storage conditions:
Keep in a dry, cool place. This material is not hazardous under normal storage conditions; however, material should be stored in closed containers, in a secure area to prevent container damage and subsequent spillage. Store in upright position only. Keep container closed when not in use.

Storage stability – Temperature:–
39.9 - 109.9 °F (4.4 - 43.3 °C)

Storage stability – Remarks:

Stable under normal conditions. May coagulate if frozen at 0°C (32°F). Material may develop bacteria odor on long term storage.

Storage incompatibility – General:
May cause coagulation:

Acids

Multivalent metal salts

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Guidelines:

Formaldehyde (50-00-0)

US. ACGIH Threshold Limit Values

Ceiling Limit Value	0.3 ppm

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Reference:	
Remarks:	29 CFR 1910.1048
OSHA Action level:	0.5 ppm
Time weighted average	0.75 ppm
Short Term Exposure Limit (STEL):	2 ppm

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.

Respiratory protection:
Do not breathe vapor or mist. 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. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. Observe respirator use limitations specified by NIOSH or the manufacturer. Consult OSHA Standard (29 CFR § 1910.1048 - Formaldehyde) to determine required type equipment for given application. 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:
Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing immediately and wash before reuse. Clean protective equipment before reuse. When handling this material, gloves of the following type(s) should be worn: neoprene, nitrile, polyvinylchloride, butyl-rubber, chlorinated polyethylene, polyethylene (PE) and ethyl vinyl alcohol laminate (EVAL). Provide a safety shower at any location where skin contact can occur. Wash thoroughly after handling.

Eye protection:
Where eye contact may be likely, wear chemical goggles and have eye flushing equipment available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	white
Physical state:	liquid
Form:	aqueous dispersion
Odor:	slightly acrylic
Odor threshold:	No data available
Flash point	Not applicable
Auto-ignition temperature:	Not applicable
Lower flammable limit (LFL):	No data available
Upper flammable limit (UFL):	No data available
pH:	3.8 - 4.8 (Estimated.)
Density:	0.9982 g/cm3 (68 °F (20 °C)) (data for Water (7732-18-5))
Specific Gravity (Relative density):	estimated 0.95 - 1.10 Water=1 (liquid)
Vapor pressure:	17.500 mmHg (68 °F (20 °C)) (data for Water (7732-18-5))
Relative vapor density:	0.6 (Method:Literature) (Air = 1.0) (data for Water (7732-18-5))
Vapor density:	No data available
Boiling point/boiling range:	212 °F (100 °C) (data for Water (7732-18-5))

Melting point/range:	No data available
Freezing point:	32 °F (0 °C) (data for Water (7732-18-5))
Evaporation rate:	No data available
Solubility in water:	miscible
Viscosity, dynamic:	estimated < 1,000 mPa.s
Oil/water partition coefficient:	No data available
Thermal decomposition	No data available
Flammability:	See GHS Classification in Section 2

10. STABILITY AND REACTIVITY

Stability:
This material is chemically stable under normal and anticipated storage, handling and processing conditions.

Hazardous reactions:
Hazardous polymerization does not occur.

Materials to avoid:
May cause coagulation:
Acids
Multivalent metal salts

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

Hazardous decomposition products:

Thermal decomposition giving flammable and toxic products
Acrylates
Carbon oxides
Nitrogen oxides
Hazardous organic compounds

11. TOXICOLOGICAL INFORMATION

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

Inhalation:
4 h Acute toxicity estimate > 30000 ppm. (Gas)

Data for Formaldehyde (50-00-0)

Acute toxicity

Skin Sensitization:
May cause allergic skin reaction. Guinea pig maximization test. Skin allergy was observed. (Strong sensitizer)

Carcinogenicity
Chronic inhalation administration to rat / affected organ(s): upper respiratory tract / Increase in tumor incidence was reported.

Chronic inhalation administration to mouse, hamster / No increase in tumor incidence was reported.

Chronic drinking water administration to rat / affected organ(s): Gastro-intestinal tract, Haematopoietic system / Increase in tumor incidence was reported.
Classified by the International Agency for Research on Cancer as: Group 1: Carcinogenic to humans.
Listed by the National Toxicology Program as: Known human carcinogen.
Regulated by OSHA as a carcinogen.

Genotoxicity

Assessment in Vitro:
Both positive and negative responses for genetic changes were observed in laboratory tests using: human cells, animal cells, bacteria, yeast

Genotoxicity

Assessment in Vivo:
Both positive and negative responses for genetic changes were observed in laboratory tests using: rats, mice, fruit flies

Human experience
Ingestion:
Gastro-intestinal tract: Gastrointestinal discomfort. (extent of injury depends on severity of exposure)

12. ECOLOGICAL INFORMATION

Chemical Fate and Pathway
No data are available.

Ecotoxicology
No data are available.

13. DISPOSAL CONSIDERATIONS

Waste disposal:
Disposal via incineration is recommended. Dispose of 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)	Conforms to
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

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:
Chronic Health Hazard, Acute Health 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

Chemical name	CAS-No.
Acrylate based polymer	Proprietary
Water	7732-18-5
Formaldehyde	50-00-0
2-Propenoic acid, ethyl ester	140-88-5

Pennsylvania Right to Know – Environmentally Hazardous Substance(s)

Chemical name	CAS-No.
Formaldehyde	50-00-0
2-Propenoic acid, ethyl ester	140-88-5

Pennsylvania Right to Know – Special Hazardous Substance(s)

Chemical name	CAS-No.
Formaldehyde	50-00-0
2-Propenoic acid, ethyl ester	140-88-5

California Prop. 65
WARNING! This product contains a chemical known to the State of California to cause cancer.

Chemical name	CAS-No.
Formaldehyde	50-00-0
2-Propenenitrile	107-13-1
2-Propenoic acid, ethyl ester	140-88-5

16. OTHER INFORMATION

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

H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H350 May cause cancer.

Latest Revision(s):

Reference number:	000000063838
Date of Revision:	07/22/2016
Date Printed:	07/22/2016

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Arkema has implemented a Medical Policy regarding the use of Arkema products in Medical Devices applications that are in contact with the body or circulating bodily fluids (http://www.arkema.com/en/social-responsibility/responsible-product-management/medical-device-policy/index.html) Arkema has designated Medical grades to be used for such Medical Device applications. Products that have not been designated as Medical grades are not authorized by Arkema for use in Medical Device applications that are in contact with the body or circulating bodily fluids. In addition, Arkema strictly prohibits the use of any Arkema products in Medical Device applications that are implanted in the body or in contact with bodily fluids or tissues for greater than 30 days. The Arkema trademarks and the Arkema name shall not be used in conjunction with customers' medical devices, including without limitation, permanent or temporary implantable devices , and customers shall not represent to anyone else, that Arkema allows, endorses or permits the use of Arkema products in such medical devices.
It is the sole responsibility of the manufacturer of the medical device to determine the suitability (including biocompatibility) of all raw materials, products and components, including any medical grade Arkema products, in order to ensure that the final end-use product is safe for its end use; performs or functions as intended; and complies with all applicable legal and regulatory requirements (FDA or other national drug agencies) It is the sole responsibility of the manufacturer of the medical device to conduct all necessary tests and inspections and to evaluate the medical device under actual end-use requirements and to adequately advise and warn purchasers, users, and/or learned intermediaries (such as physicians) of pertinent risks and fulfill any postmarket surveillance obligations. Any decision regarding the appropriateness of a particular Arkema material in a particular medical device should be based on the judgment of the manufacturer, seller, the competent authority, and the treating physician.