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: CRAYVALLAC® MT
Synonyms: Not available
Molecular formula: Not available
Chemical family: Micronized wax
Product use: Additive for :Paints, Coatings, Inks, Adhesives

2. HAZARDS IDENTIFICATION

Emergency Overview
Color: off-white
Physical state: solid
Form: powder
Odor: odourless

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

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

GHS-Labelling

Hazard pictograms:

Signal word: **Warning**

Hazard statements:

H317 : May cause an allergic skin reaction.

Supplemental Hazard Statements:

May form combustible dust concentrations in air.

Precautionary statements:

Prevention:

P261 : Avoid breathing gas/mist/vapours/spray.
P272 : Contaminated work clothing should not be allowed out of the workplace.
P280 : Wear protective gloves.

Response:

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

Disposal:

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

Supplemental information:

Potential Health Effects:

Mechanical irritation effects from dust exposure are possible at ambient temperature.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Wt/Wt	GHS Classification**
Castor oil, hydrogenated	8001-78-3	>= 70 - <= 80 %	Not classified
Proprietary amide wax	Proprietary*	>= 10 - < 15 %	H317, H413

*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):

Foam, carbon dioxide, Dry chemical, 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
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. 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.

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

7. HANDLING AND STORAGE

Handling

General information on handling:
Avoid breathing dust.
Avoid prolonged or repeated contact with skin.
Keep away from heat, sparks and flames.
Keep container closed.
Wash thoroughly after handling.
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.

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:
Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Guidelines:

Particles Not Otherwise Specified / Nuisance Dust (Proprietary)

US. ACGIH Threshold Limit Values

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.

Respiratory protection:
Avoid breathing dust. 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. 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:
Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Rinse immediately if skin is contaminated. Wash contaminated clothing and clean protective equipment before reuse. 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:	off-white
Physical state:	solid
Form:	powder
Odor:	odourless
Odor threshold:	No data available
Flash point	No data available
Auto-ignition temperature:	716 °F (380 °C)

Lower flammable limit (LFL):	No data available
Upper flammable limit (UFL):	No data available
pH:	No data available
Density:	1.02 g/cm3 (68 °F (20 °C))
Specific Gravity (Relative density):	1.02 (68 °F(20 °C))Water=1 (liquid)
Vapor pressure:	No data available
Vapor density:	No data available
Boiling point/boiling range:	No data available
Melting point/range:	266 - 284 °F (130 - 140 °C)
Freezing point:	No data available
Evaporation rate:	No data available
Solubility in water:	insoluble
Solubility in other solvents: [qualitative and quantative]	Soluble in most organic solvents
Viscosity, dynamic:	No data available
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:
Strong oxidizing agents

Conditions / hazards to avoid:

Keep away from heat and sources of ignition. Avoid storing in moist and warm conditions.

Hazardous decomposition products:

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

11. TOXICOLOGICAL INFORMATION

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

Data for Castor oil, hydrogenated (8001-78-3)

Acute toxicity

Oral:
Practically nontoxic. (rat) LD0 > 20,000 mg/kg.

Dermal:
No deaths occurred. (rat) LD0 = 2,000 mg/kg. (data for a similar material)

Inhalation:
No deaths occurred. (rat) 6 h LC0 = 1.86 mg/l. (dust/mist, data for a similar material)

Skin Irritation:
Practically non-irritating. (rabbit) (data for a similar material)

Eye Irritation:
Causes mild eye irritation. (rabbit) (data for a similar material)

Skin Sensitization:
Not a sensitizer. Guinea pig maximization test. No skin allergy was observed (data for a similar material)

Genotoxicity

Assessment in Vitro:
No genetic changes were observed in a laboratory test using: bacteria

Human experience
Skin contact:
Skin: Sensitization described in isolated cases.

Data for Proprietary amide wax (Proprietary)

Acute toxicity

Oral:

No deaths occurred. (rat) LD0 > 2,000 mg/kg.

Inhalation:
Practically nontoxic. (rat) 4 h LC0 >= 5 mg/l. signs: breathing difficulties, rapid respiration (aerosol)

Skin Irritation:
Practically non-irritating. (rabbit) (4 h)

Eye Irritation:
Causes mild eye irritation. (rabbit)

Genotoxicity

Assessment in Vitro:
No genetic changes were observed in laboratory tests using: bacteria, animal cells, human cells

Reproductive effects
Reproductive/Developmental Effects Screening Assay. oral (rat) / No toxicity to reproduction.

12. ECOLOGICAL INFORMATION

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

Data for Castor oil, hydrogenated (8001-78-3)

Biodegradation:
Readily biodegradable. (28 d) biodegradation 64 %

Octanol Water Partition Coefficient:
log Pow = 18.75 (calculated)

Data for Proprietary amide wax (Proprietary)

Biodegradation:
Not readily biodegradable. (28 d) biodegradation 22 %

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

Data for Castor oil, hydrogenated (8001-78-3)

Aquatic toxicity data:
No effect up to the limit of solubility. Danio rerio (zebra fish) 96 h LC50 > 1,000 mg/l (nominal concentrations reported)

Aquatic invertebrates:
No effect up to the limit of solubility. Daphnia magna (Water flea) 48 h EC50 > 100 mg/l (data for a similar material)

Algae:
No effect up to the limit of solubility. Desmodesmus subspicatus (green algae) 72 h EC50 > 100 mg/l (data for a similar material)

Data for Proprietary amide wax (Proprietary)

The information presented is from a representative material with a similar structure. The results vary depending on the size and composition of the test substance.

Aquatic toxicity data:
No effect up to the limit of solubility. Oncorhynchus mykiss (rainbow trout) 96 h LL50 > 10 mg/l (nominal concentrations reported, Water accommodated fraction was tested.)

Aquatic invertebrates:
No effect up to the limit of solubility. Daphnia magna (Water flea) 48 h EL50 > 10 mg/l (nominal concentrations reported, Water accommodated fraction was tested.)

Algae:
No effect up to the limit of solubility. Pseudokirchneriella subcapitata (green algae) 72 h EL50 (Growth inhibition) > 100 mg/l (nominal concentrations reported, Water accommodated fraction was tested.)

Microorganisms:
Bacteria 60 d NOEC = 1 mg/l (nominal concentrations reported)

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

US. Toxic Substances Control Act	TSCA	The components of this product are all on the TSCA Inventory.
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)	DSL	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:
Fire 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.
Castor oil, hydrogenated	8001-78-3
Proprietary amide wax	Proprietary

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.

H317 May cause an allergic skin reaction.
H413 May cause long lasting harmful effects to aquatic life.

Miscellaneous:

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:	000000090534
Date of Revision:	05/06/2016
Date Printed:	07/23/2016

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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.