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® LA-150
Synonyms: Not available
Molecular formula: Mixture
Chemical family: MODIFIED UREA SOLUTION
Product use: Additive for :Paint, Coatings, Inks, Adhesives

2. HAZARDS IDENTIFICATION

Emergency Overview
Color: Colourless to yellow.
Physical state: liquid
Odor: solvent-like, sulphurous

***Classification of the substance or mixture:**
Not a hazardous substance or mixture.

GHS-Labelling

Not a hazardous substance or mixture.

Supplemental information:

Potential Health Effects:
Due to the presence of the solvent : Prolonged or repeated skin contact may cause defatting resulting in drying, redness and rash. Can be absorbed through the skin.
May also cause: Strong garlic-like odor of the breath, fatigue, (severity of effects depends on extent of exposure).

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Wt/Wt	GHS Classification**
Proprietary modified urea	Proprietary*	>= 30 - < 60 %	Not classified
Methane, sulfinylbis-	67-68-5	>= 30 - < 60 %	Not classified
Lithium chloride	7447-41-8	>= 1 - < 5 %	H303, H315, H319

*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 plenty of water. Remove contaminated clothing and shoes. 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
Sulphur oxides
Nitrogen oxides
Cyanides
hydrogen sulfide
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:
Avoid breathing vapor or mist.
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:
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.

Storage stability – Remarks:
Stable under recommended storage conditions.

Storage incompatibility – General:
Store separate from:

Organic and mineral acids (sulphur, phosphorus) halides

Methylbromide

Sodium hydride

Zinc, Steel (in the presence of water)

Strong acids : perchloric acid, periodic acid

Strong oxidizing agents

Temperature tolerance – Do not store below:–
68 °F (20 °C)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Guidelines:

Methane, sulfinylbis- (67-68-5)

US. OARS. WEELs Workplace Environmental Exposure Level Guide

Time weighted average	250 ppm
Remarks:	Listed

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:
Avoid breathing 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. 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:
Minimize skin contamination by following good industrial hygiene practice. Wearing protective gloves is recommended. Wash hands and contaminated skin thoroughly after handling.

Eye protection:
Use good industrial practice to avoid eye contact. Where eye contact may be likely, wear chemical goggles and have eye flushing equipment available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Colourless to yellow.
Physical state:	liquid
Odor:	solvent-like, sulphurous
Odor threshold:	No data available
Flash point	> 203 °F (> 95 °C) (Method: Seta Flash Method)
Auto-ignition temperature:	No data available
Lower flammable limit (LFL):	No data available
Upper flammable limit (UFL):	No data available
pH:	Not applicable
Density:	1.1 g/cm3 (68 °F (20 °C))
Specific Gravity (Relative density):	1.1 (68 °F(20 °C))Water=1 (liquid)
Vapor pressure:	0.417 mmHg (68 °F (20 °C))
Vapor density:	No data available
Boiling point/boiling range:	No data available
Melting point/range:	No data available.
Freezing point:	No data available
Evaporation rate:	No data available
Solubility in water:	insoluble
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:
Hygroscopic product (strongly) Stability of the solution decreases under the action of heat, light, and in the presence of impurities

Hazardous reactions:
Hazardous polymerization does not occur.

Materials to avoid:
Organic and mineral acids (sulphur, phosphorus) halides
Methylbromide
Sodium hydride
Strong acids : perchloric acid, periodic acid
Strong oxidizing agents

Conditions / hazards to avoid:
Keep away from heat and sources of ignition. To avoid thermal decomposition, do not overheat.

Hazardous decomposition products:

Thermal decomposition giving flammable and toxic products :
Carbon oxides
Nitrogen oxides
Sulphur oxides
Hazardous organic compounds
Hydrogen sulphide
Cyanides
Formaldehyde
Methylmercaptan
Dimethylsulphide

Product of hydrolysis :
Dimethyl sulfone

11. TOXICOLOGICAL INFORMATION

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

Oral:
Acute toxicity estimate > 5,000 mg/kg.

Data for Methane, sulfinylbis- (67-68-5)

Acute toxicity

Oral:
Practically nontoxic. (rat) LD50 = 28,300 mg/kg.

Dermal:
Practically nontoxic. (rat) LD50 = 40,000 mg/kg.

Inhalation:
Practically nontoxic. (rat) 4 h LC0 > 5.3 mg/l. (dust/mist)

Skin Irritation:
Practically non-irritating. (rabbit)

Eye Irritation:
Causes mild eye irritation. (rabbit)

Skin Sensitization:
Not a sensitizer. Guinea pig maximization test. (guinea pig) No skin allergy was observed

Not a sensitizer. Buehler Test. (guinea pig) No skin allergy was observed

Not a sensitizer. LLNA: Local Lymph Node Assay. (mouse) No skin allergy was observed

Repeated dose toxicity
Subchronic inhalation administration to rat / Local irritation of the respiratory system

Subchronic dermal administration to rabbit / affected organ(s): eye / signs: changes in organ structure or function / (Repeated exposure at high concentrations)

Subchronic dermal administration to dog / affected organ(s): eye / signs: changes in organ structure or function / (Repeated exposure at high concentrations)

Chronic oral administration to rat and dog / affected organ(s): eye / signs: changes in organ structure or function / (Repeated exposure at high concentrations)

Oral, dermal administration to monkey / signs: Gastrointestinal disturbance, Garlic smell on breath / No adverse systemic effects reported.

Genotoxicity

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

Genotoxicity

Assessment in Vivo:
No genetic changes were observed in laboratory tests using: mice, fruit flies, rats, (data for similar material)

Developmental toxicity

Exposure during pregnancy. Oral (rat, rabbit) / No birth defects were observed.

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

Human experience
General:

Rapidly absorbed through skin.

Human experience
Skin contact:
Skin: dry skin, dermatitis, rash, redness. (repeated or prolonged exposure)

Systemic effects: Strong garlic-like odor of the breath, headache, eye pain, fatigue, dizziness.

Skin: No skin allergy was observed.

Human experience
Eye contact:
Eyes: stinging, tearing.

Data for Lithium chloride (7447-41-8)

Acute toxicity

Oral:
Harmful if swallowed. (Rat) LD50 = 526 - 840 mg/kg.

Harmful if swallowed. (Mouse) LD50 = 1,165 mg/kg.

Dermal:
May be harmful in contact with skin. (Rat) LD50 > 2,000 mg/kg.

Inhalation:
Practically nontoxic. (Rat) 4 h LC50 > 5.57 mg/l. (Aerosol)

Skin Irritation:
Causes skin irritation. (Rabbit) (4 h)

Eye Irritation:
Causes serious eye irritation. (Rabbit)

Skin Sensitization:
Not a sensitizer. Buehler method. (Guinea pig) No skin allergy was observed

Repeated dose toxicity
Repeated dietary administration to Rat / affected organ(s): Thyroid gland, reproductive system / signs: atrophy, changes in body weight, decreased growth rate / Repeated exposure at high concentrations

Chronic drinking water administration to Rat / signs: At high concentrations, tremors, loss of muscle coordination, decreased growth rate, death

Chronic oral administration to Dog / affected organ(s): kidney

Genotoxicity

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

Developmental toxicity

Exposure during pregnancy. drinking water (Rat) / No birth defects were observed.
Exposure during pregnancy. oral (Rat) / No birth defects were observed. (at doses that produce effects in mothers, 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 Proprietary modified urea (Proprietary)

Octanol Water Partition Coefficient:
log Pow = 2.4 - 3.1

Data for Methane, sulfinylbis- (67-68-5)

Biodegradation:
Not readily biodegradable. (28 d) Water 31 %

Not expected to bioaccumulate.

Octanol Water Partition Coefficient:
log Pow = -1.35 (Does not bioaccumulate.)

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

Data for Methane, sulfinylbis- (67-68-5)

Aquatic toxicity data:
Practically nontoxic. Danio rerio (zebra fish) 96 h LC50 > 25,000 mg/l

Aquatic invertebrates:
Practically nontoxic. Daphnia magna (Water flea) 48 h EC50 = 24,600 mg/l

Algae:
Practically nontoxic. Pseudokirchneriella subcapitata (microalgae) 72 h EC50 = 17,000 mg/l

Microorganisms:
Respiration inhibition / Activated sludge 30 min EC50 = 10 - 100 mg/l
Microtox test / Photobacterium phosphoreum 5 min EC50 = 77 mg/l
Cell multiplication inhibition test / Pseudomonas putida 16 h EC50 = 16,000 mg/l

Chronic toxicity to aquatic plants:
Practically nontoxic. Algae 14 d LC50 = 390 - 4020 mg/l

Data for Lithium chloride (7447-41-8)

Aquatic toxicity data:
Practically nontoxic. Oncorhynchus mykiss 96 h LC50 = 158 mg/l

Aquatic invertebrates:
Practically nontoxic. Daphnia magna (Water flea) 48 h EC50 = 249 mg/l

Algae:
Practically nontoxic. Desmodesmus subspicatus (green algae) 72 h EC50 (Growth inhibition) > 400 mg/l

Microorganisms:
Practically nontoxic. Respiration inhibition / 3 h EC50 = 102.1 mg/l (similar material)

Chronic toxicity to fish:
Toxic. Early-life Stage / Pimephales promelas (fathead minnow) 26 d LC50 = 8.7 mg/l

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.

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:
No SARA Hazards

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

Chemical name	CAS-No.
Methane, sulfinylbis-	67-68-5

New Jersey Right to Know – Special Health Hazard Substance(s)

Chemical name	CAS-No.
Methane, sulfinylbis-	67-68-5

Pennsylvania Right to Know

Chemical name	CAS-No.
Proprietary modified urea	Proprietary
Methane, sulfinylbis-	67-68-5
Lithium chloride	7447-41-8
Benzene, 2,4-diisocyanato-1-methyl-	584-84-9

Pennsylvania Right to Know – Environmentally Hazardous Substance(s)

Chemical name	CAS-No.
Benzene, 2,4-diisocyanato-1-methyl-	584-84-9

Pennsylvania Right to Know – Special Hazardous Substance(s)

Chemical name	CAS-No.
Benzene, 2,4-diisocyanato-1-methyl-	584-84-9

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

Chemical name	CAS-No.
Benzene, 1,3-diisocyanato-2-methyl-	91-08-7
Benzene, 2,4-diisocyanato-1-methyl-	584-84-9

16. OTHER INFORMATION

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

H303 May be harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Latest Revision(s):

Reference number:	000000080557
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.