1. PRODUCT AND COMPANY IDENTIFICATION

Company

Arkema Inc.
900 First Avenue
King of Prussia, Pennsylvania 19406

Sartomer

Customer Service Telephone Number: (800) SARTOMER
(Monday through Friday, 8:30 AM to 5:30 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: SR525 C
Synonyms: N,N-m-Phenylene Dimaleimide
Molecular formula: Complex Mixture
Chemical family: Mixture
Product use: rubber industry

2. HAZARDS IDENTIFICATION

Emergency Overview
Color: yellowish
Physical state: solid
Form: powder
Odor: none

***Classification of the substance or mixture:**
Oral: Acute toxicity, Category 4, H302
Inhalation: Acute toxicity, Category 2, H330
Eye irritation, Category 2A, H319

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

GHS-Labelling

Hazard pictograms:

Signal word: **Danger**

Hazard statements:

H302 : Harmful if swallowed.
H319 : Causes serious eye irritation.
H330 : Fatal if inhaled.

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.

Precautionary statements:

Prevention:

P260 : Do not breathe gas/mist/vapours/spray.
P264 : Wash skin thoroughly after handling.
P270 : Do not eat, drink or smoke when using this product.
P271 : Use only outdoors or in a well-ventilated area.
P280 : Wear eye protection/ face protection.
P284 : Wear respiratory protection.

Response:

P301 + P312 : IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P304 + P340 : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 : Immediately call a POISON CENTER or doctor/ physician.
P330 : Rinse mouth.
P337 + P313 : If eye irritation persists: Get medical advice/ attention.

Storage:

P403 + P233 : Store in a well-ventilated place. Keep container tightly closed.
P405 : Store locked up.

Disposal:

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

Supplemental information:

Potential Health Effects:

Effects due to processing releases: Irritating to eyes, respiratory system and skin.
Prolonged or repeated exposure may cause: drowsiness, headache, nausea, weakness, (severity of effects

depends on extent of exposure).

Other:
This product may release fume and/or vapor of variable composition depending on processing time and temperature. Possible cross sensitization with other acrylates and methacrylates

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Wt/Wt	GHS Classification**
1H-Pyrrole-2,5-dione, 1,1'-(1,3-phenylene)bis-	3006-93-7	<= 70 %	H302, H330, H319
Bicyclo[2.2.1]hept-2-ene, 5-ethylidene-, polymer with ethene and 1-propene	25038-36-2	<= 18 %	Not classified
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	<= 10 %	Not classified
Octadecanoic acid	57-11-4	<= 2 %	Not classified

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

4. FIRST AID MEASURES

General advice:
POISON! Get medical attention immediately. Call a Poison Control Center immediately.

Inhalation:
If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

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:
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Ingestion:
If swallowed, DO NOT induce vomiting. If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel. Get medical attention. Never give anything by mouth to an unconscious person. Rinse mouth.

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.
Fight fire from a protected location.
Cool closed containers exposed to fire with water spray.
Closed containers of this material may explode when subjected to heat from surrounding fire.
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
Hazardous organic compounds
Polymerization is exothermic and can degenerate into an uncontrolled reaction.

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.

7. HANDLING AND STORAGE

Handling

General information on handling:
Do not taste or swallow.
Do not breathe dust.
Avoid contact with skin, eyes and clothing.
Keep away from heat, sparks and flames.
Keep container closed.
Use only with adequate ventilation.
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.
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.
Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

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.Store out of direct sunlight in a cool well-ventilated place.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.
Keep stabilizer levels constant to avoid explosive polymerization.An air space is required above the liquid in all containers; avoid storage under an oxygen-free atmosphere.

Storage stability – Remarks:
Inhibitor levels should be maintained. The typical shelf-life for this product is 6 months.

Storage incompatibility – General:
Store separate from:

Strong oxidizing agents

Strong reducing agents

Free radical generators

Inert gas

Oxygen scavenger.

Peroxides

Temperature tolerance – Do not store below:–
32 °F (0 °C)

Temperature tolerance – Do not store above:
100 °F (38 °C)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Guidelines:

Distillates (petroleum), hydrotreated heavy naphthenic (64742-52-5)

US. ACGIH Threshold Limit Values

Form:	Mist
Short Term Exposure Limit (STEL):	10 mg/m3
Remarks:	Exposure by all routes should be carefully controlled to levels as low as possible.
Remarks:	Included in the regulation but with no data values. See regulation for further details.
Form:	Inhalable fraction.
time weighted average	5 mg/m3

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

Form:	Mist
PEL:	5 mg/m3
PEL:	500 ppm (2,000 mg/m3)

Octadecanoic acid (57-11-4)

US. ACGIH Threshold Limit Values

time weighted average	10 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:
Do not breathe 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 recommended). 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. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles.

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. Avoid natural rubber gloves. Rinse immediately if skin is contaminated. Wash contaminated clothing and clean protective equipment before reuse. Wash thoroughly after handling.

Eye protection:
Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment immediately available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	yellowish
Physical state:	solid
Form:	powder
Odor:	none
Odor threshold:	No data available
Flash point	> 406 °F (208 °C) (closed cup)
Auto-ignition temperature:	No data available
Lower flammable limit (LFL):	No data available
Upper flammable limit (UFL):	No data available
pH:	~ 7

Density:	No data available
Specific Gravity (Relative density):	1.440 (77 °F(25 °C))
Vapor pressure:	No data available
Vapor density:	No data available
Boiling point/boiling range:	No data available
Freezing point:	No data available
Melting point/range:	383 °F (195 °C)
Evaporation rate:	No data available
Solubility in water:	negligible
Oil/water partition coefficient:	No data available
Thermal decomposition	No data available

Flammability (solid, gas):

10. STABILITY AND REACTIVITY

Stability:
This material is chemically stable under normal and anticipated storage, handling and processing conditions. However, this material can undergo hazardous polymerization.

Hazardous reactions:
Hazardous polymerisation may occur.
Polymerization is exothermic and can degenerate into an uncontrolled reaction.

Materials to avoid:
Strong oxidizing agents
Strong reducing agents
Free radical generators
Inert gas
Oxygen scavenger.
Peroxides

Conditions / hazards to avoid:
This material polymerizes exothermically in the presence of heat, contamination, oxygen free atmosphere, free radicals, peroxides and inhibitor depletion liberating heat. Avoid direct sunlight. Do NOT expose to ultraviolet light.

Hazardous decomposition products:

Thermal decomposition giving flammable and toxic products:
Carbon oxides

Acrylates
Hazardous organic compounds

11. TOXICOLOGICAL INFORMATION

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

Oral:
Acute toxicity estimate 712.25 mg/kg.

Inhalation:
4 h Acute toxicity estimate 0.13 mg/l.

Data for 1H-Pyrrole-2,5-dione, 1,1'-(1,3-phenylene)bis- (3006-93-7)

Acute toxicity

Eye Irritation:
Causes serious eye irritation.

Genotoxicity

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

Data for Distillates (petroleum), hydrotreated heavy naphthenic (64742-52-5)

Acute toxicity

Dermal:
Practically nontoxic. (rabbit) LD0 > 5,000 mg/kg.

Skin Irritation:
Practically non-irritating. (rabbit) Irritation Index: 0.56 - 1.15 / 8.0. (24 h)

Eye Irritation:
Causes mild eye irritation. (rabbit)

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

Not a skin sensitizer Repeated skin exposure. (guinea pig) No skin allergy was observed

Repeated dose toxicity
Repeated dermal administration to rabbit / affected organ(s): Skin, liver / signs: Irritation, changes in organ weights, changes in organ structure or function

Carcinogenicity
Chronic dermal administration to mouse / affected organ(s): skin / No increase in tumor incidence was reported.

Dermal administration to mouse / affected organ(s): skin / Increase in tumor incidence was reported.

Genotoxicity

Assessment in Vitro:
Both positive and negative responses for genetic changes were observed in laboratory tests using: bacteria

Generally, no genetic changes were observed in laboratory studies using: animal cells

Human experience
Inhalation:
Lungs: chemical pneumonitis. (mist) (repeated or prolonged exposure)

Human experience
Skin contact:
Skin: Prolonged or repeated contact may dry skin and cause irritation.

Data for Octadecanoic acid (57-11-4)

Acute toxicity

Dermal:
No deaths occurred. (rabbit) LD0 > 2,000 mg/kg.

Eye Irritation:
Causes mild eye irritation. (rabbit)

Skin Sensitization:
Not a skin sensitizer Buehler method. (guinea pig) No skin allergy was observed (data for a similar material)

Repeated dose toxicity
Repeated exposure oral administration to rat / No adverse effects reported. (data for a similar material)

Carcinogenicity
Chronic dietary administration to rat / No increase in tumor incidence was reported.

Genotoxicity

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

Developmental toxicity

Reproductive/Developmental Effects Screening Assay. oral (rat) / No birth defects were observed.

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

Human experience
Skin contact:
Skin: No skin allergy was observed (studied using human volunteers)

12. ECOLOGICAL INFORMATION

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

Data for Distillates (petroleum), hydrotreated heavy naphthenic (64742-52-5)

Biodegradation:
Not readily biodegradable. (28 d) biodegradation 6 % / data for a similar material

Data for Octadecanoic acid (57-11-4)

Biodegradation:
Readily biodegradable. (28 d) biodegradation 72 %

Octanol Water Partition Coefficient:
log Pow > 8.23

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

Data for 1H-Pyrrole-2,5-dione, 1,1'-(1,3-phenylene)bis- (3006-93-7)

Aquatic invertebrates:
Toxic. Daphnia 48 h EC50 3.6 mg/l

Data for Distillates (petroleum), hydrotreated heavy naphthenic (64742-52-5)

Aquatic toxicity data:
Practically nontoxic. Oncorhynchus mykiss (rainbow trout) 96 h LC50 > 1,000 mg/l (dispersion, data for a similar material)
Practically nontoxic. Pimephales promelas (fathead minnow) 96 h LL50 > 100 mg/l (data for a similar material, Water accommodated fraction was tested., No effect up to the limit of solubility.)

Aquatic invertebrates:
Practically nontoxic. Daphnia magna (Water flea) 48 h EL50 > 1,000 mg/l (data for a similar material, Water accommodated fraction was tested., No effect up to the limit of solubility.)

Algae:
Practically nontoxic. Desmodesmus subspicatus (green algae) 96 h EL50 > 1,000 mg/l (data for a similar material, Water accommodated fraction was tested., No effect up to the limit of solubility.)

Microorganisms:
Practically nontoxic. Pseudomonas fluorescens 6 h EC20 > 1,000 mg/l (similar material, nominal concentrations reported)

Data for Octadecanoic acid (57-11-4)

Aquatic toxicity data:
No effect up to the limit of solubility. Leuciscus idus (Golden orfe) 48 h LC50 > 1.000 mg/l (nominal concentrations reported, Water accommodated fraction was tested.)

Aquatic invertebrates:
No effect up to the limit of solubility. Daphnia magna (Water flea) 47 h EC50 > 32 mg/l (nominal concentrations reported, Water accommodated fraction was tested.)

Algae:
No effect up to the limit of solubility. Scenedesmus capricornutum (fresh water algae) 72 h NOEC > 0.9 mg/l (Water accommodated fraction was tested., nominal concentrations reported)

Microorganisms:
Pseudomonas putida 18 h EC10 = 883 mg/l (No effect up to the limit of solubility.)

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
US. Toxic Substances Control Act	TSCA	The components of this product are all on the TSCA Inventory.
Australia. Industrial Chemical (Notification and Assessment) Act	AICS	Conforms to
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)	DSL	All components of this product are on the Canadian DSL.
Japan. Kashin-Hou Law List	ENCS (JP)	Does not conform
Korea. Existing Chemicals Inventory (KECI)	KECI (KR)	Conforms to
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	PICCS (PH)	Conforms to
China. Inventory of Existing Chemical Substances	IECSC (CN)	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:
Reactivity Hazard, Acute Health Hazard, Fire Hazard

SARA Title III – Section 313 Toxic Chemicals:
SARA 313: 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.
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5

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

Chemical Name	CAS-No.
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5

Pennsylvania Right to Know

Chemical Name	CAS-No.
1H-Pyrrole-2,5-dione, 1,1'-(1,3-phenylene)bis-	3006-93-7
Bicyclo[2.2.1]hept-2-ene, 5-ethylidene-, polymer with ethene and 1-propene	25038-36-2
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5

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.

H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.

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:	000000081176
Date of Revision:	04/02/2014
Date Printed:	04/03/2014

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