

LUPEROX® AIR™ XL**1. PRODUCT AND COMPANY IDENTIFICATION****Company**

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

Functional Additives

Customer Service Telephone Number: (800) 331-7654
(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: LUPEROX® AIR™ XL
Synonyms: Not available
Molecular formula: Complex Mixture
Chemical family: Organic peroxide
Product use: Cross-linking agent for polymers and elastomers

2. HAZARDS IDENTIFICATION**Emergency Overview**

Color: off-white
Physical state: solid
Form: powder
Odor: pungent, unpleasant

***Classification of the substance or mixture:**

Organic peroxides, Type D, H242
Skin sensitisation, Category 1, H317
Chronic aquatic toxicity, Category 3, H412

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

LUPEROX® AIR™ XL**GHS-Labeling**

Hazard pictograms:



Signal word:

Danger**Hazard statements:**

- H242 : Heating may cause a fire.
H317 : May cause an allergic skin reaction.
H412 : Harmful to aquatic life with long lasting effects.

Supplemental Hazard Statements:

- Organic peroxide.
Hazardous decomposition may occur.
May form combustible dust concentrations in air.

Precautionary statements:**Prevention:**

- P210 : Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P220 : Keep/Store away from clothing/ combustible materials.
P234 : Keep only in original container.
P261 : Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P272 : Contaminated work clothing should not be allowed out of the workplace.
P273 : Avoid release to the environment.
P280 : Wear protective gloves/ eye protection/ face protection.

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.

Storage:

- P410 : Protect from sunlight.
P411 + P235 : Maximum storage temperature is specified on label and in section 7 of SDS. Keep cool.
P420 : Store away from other materials.

Disposal:

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

Supplemental information:**Potential Health Effects:**

Product code: 769101

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Wt/Wt	GHS Classification**
Peroxide, [1,3(or 1,4)-phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl)	25155-25-3	>= 50 - <= 70 %	H242, H413
Proprietary additive	Proprietary*	>= 20 - <= 25 %	H317
Silica gel, pptd., cryst.-free	112926-00-8	>= 10 - <= 30 %	Not classified
Proprietary component	Proprietary*	>= 5 - <= 10 %	H317
Peroxide, 1,1-dimethylethyl 1-methyl-1-[3-(1-methylethenyl)phenyl]ethyl	96319-55-0	>= 1 - <= 3 %	H315, H411
Benzenemethanol, 3-[1-[(1,1-dimethylethyl)dioxy]-1-methylethyl]- α,α -dimethyl-	57913-37-8	>= 1 - <= 3 %	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.

LUPEROX® AIR™ XL**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:

Fight fire with large amounts of water from a safe distance.

Do not use a solid stream of water.

A solid stream of water can cause a dust explosion.

Closed containers of this material may explode when subjected to heat from surrounding fire.

Cool closed containers exposed to fire with water spray.

Do not allow run-off from fire fighting to enter drains or water courses.

After a fire, wait until the material has cooled to room temperature before initiating clean-up activities.

Fire fighting equipment should be thoroughly decontaminated after use.

Fire and explosion hazards:

Contact with incompatible materials or exposure to temperatures exceeding the SADT may result in a self accelerating decomposition reaction with release of flammable vapors which may autoignite.

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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:

Alcohols

Ketones

Carbon 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 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.

LUPEROX® AIR™ XL**7. HANDLING AND STORAGE****Handling****General information on handling:**

Contact with materials to avoid or exposure to temperatures exceeding the SADT may result in a self-accelerating decomposition reaction with release of flammable vapors which may autoignite.

Keep away from heat, sparks and flames.

Avoid breathing dust.

Avoid prolonged or repeated contact with skin.

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.

Use only with adequate ventilation.

No smoking.

Wash thoroughly after handling.

Prevent product contamination.

Keep container tightly closed and away from combustible materials.

Keep only in the original container.

Container hazardous when empty.

Emptied container retains product residue.

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.

Do not reuse container as it may retain hazardous product residue.

Improper disposal or reuse of this container may be dangerous and/or illegal.

Storage**General information on storage conditions:**

Store in closed containers, in a secure area to prevent container damage and subsequent spillage. Segregated or detached storage is preferred. Store in well ventilated area away from heat and sources of ignition such as flame, sparks and static electricity. Store out of direct sunlight in a cool well-ventilated place. Store in original container. Store away from combustibles and materials to avoid. 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. Refer also to National Fire Protection Association (NFPA) Code 400, Hazardous Materials Code. 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 – Period:

12 Months

Storage stability – Remarks:

Follow the recommended storage temperatures provided in this Section in order to maintain stability and oxygen content.

Storage incompatibility – General:

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Store away from excessive heat, sources of ignition, and reactive materials.

Store separate from:

- Strong acids
- Strong oxidizing agents
- Reducing agents
- Friedel - Crafts reaction catalyst
- Accelerators
- Iron
- Brass
- Copper

For all Organic Peroxides, compatible materials of contact are stainless steel 304 or 316 (preferred), high-density polyethylene (HDPE), polytetrafluoroethylene or glass linings.

Temperature tolerance – Do not store above:

86 °F (30 °C)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Guidelines:

Silica gel, pptd., cryst.-free (112926-00-8)

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

Time weighted average	20millions of particles per cubic foot of air
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US. OSHA Table Z-3 (29 CFR 1910.1000)

Time weighted average	0.8 mg/m3
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Remarks:	The exposure limit is calculated from the equation, $80/(\%SiO_2)$, using a value of 100% SiO ₂ . Lower values of % SiO ₂ will give higher exposure limits.
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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 (such as exhaust ducts, dust

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collectors, vessels, and processing equipment) 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. (in case of higher concentration)

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
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Color:	off-white
Physical state:	solid
Form:	powder
Odor:	pungent, unpleasant
Odor threshold:	No data available.
Flash point	The flashpoint of this product is greater than the Self Acceleration Decomposition Temperature (SADT).
Lower flammable limit (LFL):	No data available.
Upper flammable limit (UFL):	No data available.
pH:	No data available.
Density:	1.210 g/cm ³
Specific Gravity (Relative density):	No data available
Bulk density:	0.3000 g/cm ³

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Vapor pressure:	No data available.
Vapor density:	No data available.
Boiling point/boiling range:	Decomposes before boiling. Rate of decomposition increases with rising temperature.
Melting point/range:	111 °F (44 °C)
Freezing point:	No data available.
Evaporation rate:	No data available.
Solubility in water:	No data available.
Viscosity, dynamic:	No data available.
Oil/water partition coefficient:	No data available.
Self-Accelerating Decomposition Temperature (SADT):	176 °F (80 °C) in packaging of 25 kg
Thermal decomposition:	No data available.
Active oxygen content:	5.7 %
Flammability:	See GHS Classification in Section 2

10. STABILITY AND REACTIVITY

Stability:

This material is chemically unstable and should only be handled under specified conditions. See HANDLING AND STORAGE section of this MSDS for specified conditions.

Hazardous reactions:

In the presence of an ignition source: Dust may form explosive mixture in air. Hazardous polymerisation does not occur.

Materials to avoid:

- Strong acids
- Strong oxidizing agents
- Reducing agents
- Accelerators
- Friedel - Crafts reaction catalyst
- Brass
- Copper
- Iron

For all Organic Peroxides, compatible materials of contact are stainless steel 304 or 316 (preferred), high-density polyethylene (HDPE), polytetrafluoroethylene or glass linings.

LUPEROX® AIR™ XL**Conditions / hazards to avoid:**

See HANDLING AND STORAGE section of this MSDS for specified conditions. SADT - Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction. This reaction will generate flammable vapors which may autoignite. The length of time to generate a decomposition reaction, after the SADT has been reached or exceeded, is dependent upon how much the SADT has been exceeded and the length of time needed for the reaction exotherm (heat spike from increasing decomposition rate) to initiate a rapid decomposition reaction. Typically, SADT is inversely proportional to package size. Larger packages will have a lower SADT due to smaller ratio to heat transfer area to volume of product.

Hazardous decomposition products:

Temperatures at or above the SADT can result in the release of hazardous decomposition products which are flammable and may autoignite.

Thermal decomposition giving flammable and toxic products :

Alcohols

Ketones

Carbon oxides

Hazardous organic compounds

11. TOXICOLOGICAL INFORMATION

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

Oral:

Acute toxicity estimate > 5,000 mg/kg.

Data for Peroxide, [1,3(or 1,4)-phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) (25155-25-3)**Acute toxicity****Oral:**

No deaths occurred. (rat) LD0 > 2,000 mg/kg. (98 %)

Dermal:

No deaths occurred. (rat) LD0 > 2,000 mg/kg. (97 %)

Skin Irritation:

Not irritating. (rabbit) (4 h)

Eye Irritation:

Causes mild eye irritation. (rabbit)

Skin Sensitization:

Not a sensitizer. LLNA: Local Lymph Node Assay. (mouse) No skin allergy was observed (98 %)

Repeated dose toxicity

Repeated oral administration to rat / affected organ(s): kidney / signs: changes in organ structure or function, hyaline droplet nephropathy

Genotoxicity**Assessment in Vitro:**

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

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Developmental toxicity

Exposure during pregnancy. Oral (rat) / At high dose : Malformations were observed.

Reproductive effects

Reproductive/Developmental Effects Screening Assay. Oral (rat) / Effects on fertility / (levels produced toxic effects in the mothers and offspring, smaller litter sizes, reductions in birth weight)

Human experience**Inhalation:**

Respiratory tract: irritation. Dust and/or vapor are reported to cause irritation when proper industrial hygiene controls/procedures are not used.

Human experience**Eye contact:**

Eyes: irritation. (based on reports of occupational exposure to workers) Dust and/or vapor are reported to cause irritation when proper industrial hygiene controls/procedures are not used.

Data for Proprietary additive (Proprietary)**Acute toxicity****Oral:**

Practically nontoxic. (rat) LD50 = 6,000 mg/kg.

Dermal:

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

Skin Irritation:

Not irritating. (rabbit) (4 h)

Eye Irritation:

Causes mild eye irritation. (rabbit)

Skin Sensitization:

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

Human experience**Skin contact:**

Skin: Slightly irritating.

Data for Silica gel, pptd., cryst.-free (112926-00-8)**Acute toxicity****Oral:**

No deaths occurred. (rat) LD0 > 5,000 mg/kg.

Dermal:

No deaths occurred. (rabbit) LD0 > 5,000 mg/kg.

Inhalation:

No deaths occurred. (rat) 4 h LC0 >= 2.08 mg/l. (dust/mist)

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Skin Irritation:

Practically non-irritating. (rabbit) OECD Test Guideline 404 0-2 / 8. (4 h)

Eye Irritation:

Causes mild eye irritation. (rabbit)

Skin Sensitization:

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

Repeated dose toxicity

Repeated inhalation administration to rat / affected organ(s): lung, lymph node / signs: inflammation / No adverse systemic effects reported. (Local effects, reversible)

Repeated oral administration to rat / No adverse systemic effects reported.

Carcinogenicity

Chronic oral administration to rat and mouse / affected organ(s): lung / No increase in tumor incidence was reported.

Classified by the International Agency for Research on Cancer as: Group 3: Unclassifiable as to carcinogenicity in humans.

Genotoxicity**Assessment in Vitro:**

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

Genotoxicity**Assessment in Vivo:**

No genetic changes were observed in laboratory tests using: rats

Developmental toxicity

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

Other information

Information given is based on data obtained from similar substances.

Human experience**Inhalation:**

Respiratory system: No increase in tumor incidence was reported. No significant impairment of lung function. (based on reports of occupational exposure to workers)

Data for Proprietary component (Proprietary)**Acute toxicity****Oral:**

Practically nontoxic. (rat) LD50 > 7,940 mg/kg.

Dermal:

Practically nontoxic. (rabbit) LD50 > 7,940 mg/kg.

Skin Irritation:

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Not irritating. (rabbit)

Eye Irritation:

Causes mild eye irritation. (rabbit)

Skin Sensitization:

Sensitizing. LLNA: Local Lymph Node Assay. (mouse) Skin allergy was observed.

Carcinogenicity

Chronic oral administration to mouse / No increase in tumor incidence was reported.

Genotoxicity**Assessment in Vitro:**

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

Genotoxicity**Assessment in Vivo:**

No genetic changes were observed in a laboratory test using: mice, (data for similar material)

Developmental toxicity

Exposure during pregnancy. dietary (rat) / No birth defects were observed.

Reproductive effects

Two generation reproduction study. dietary (rat) / No toxicity to reproduction. / (data for a similar material)

Human experience**Skin contact:**

Skin allergy was observed. (subjects with dermatitis or eczema)

Skin: Non-irritating. (studied using human volunteers)

Data for Peroxide, 1,1-dimethylethyl 1-methyl-1-[3-(1-methylethenyl)phenyl]ethyl (96319-55-0)**Acute toxicity****Oral:**

May be harmful if swallowed. (rat) LD50 = 4,700 mg/kg.

Dermal:

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

Inhalation:

No deaths occurred. (rat) 4 h LC0 = 1.2 mg/l. (vapour)

Skin Irritation:

Causes mild skin irritation. (rabbit) Irritation Index: 2.9/8. (4 h)

Causes skin irritation. (rabbit) Irritation Index: 3.8/8. (24 h) (occluded exposure)

Eye Irritation:

Not irritating. (rabbit)

LUPEROX® AIR™ XL**Skin Sensitization:**

Not a sensitizer. Guinea pig maximization test. Skin allergy was observed. (Weak response)

Repeated dose toxicity

Repeated oral administration to rat / affected organ(s): liver, kidney / signs: reduced body weight, changes in organ weights, changes in organ structure or function

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) / At high dose : Effects on fertility and offspring / (toxic effects also observed in the parental animals at these doses)

Other information

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.

Data for Benzenemethanol, 3-[1-[(1,1-dimethylethyl)dioxy]-1-methylethyl]- α,α -dimethyl- (57913-37-8)**Acute toxicity****Skin Irritation:**

Causes skin irritation. (similar material)

Eye Irritation:

Causes serious eye irritation. (similar material)

Other information

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

12. ECOLOGICAL INFORMATION**Chemical Fate and Pathway**

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

Data for Peroxide, [1,3(or 1,4)-phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) (25155-25-3)**Biodegradation:**

Not readily biodegradable. (28 d) biodegradation 0 %

Bioaccumulation:

calculated = 536

Data for Proprietary component (Proprietary)**Biodegradation:**

Not readily biodegradable. (28 d) biodegradation 0 % / OECD Test Guideline 301 C

Octanol Water Partition Coefficient:

log Pow: = 4.5

LUPEROX® AIR™ XL**Data for Peroxide, 1,1-dimethylethyl 1-methyl-1-[3-(1-methylethenyl)phenyl]ethyl (96319-55-0)****Biodegradation:**

Not readily biodegradable. (58 d) biodegradation 0 %

Octanol Water Partition Coefficient:

log Pow: = 4.4, = 77 °F (25 °C)

Mobility and Distribution in the Environment:

Log Koc = 3.3

Additional Information:

Information given is based on data obtained from similar substances.

Ecotoxicology

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

Data for Peroxide, [1,3(or 1,4)-phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl) (25155-25-3)**Aquatic toxicity data:**

No effect up to the limit of solubility. *Poecilia reticulata* (guppy) 96 h LC50 = 750 mg/l (Nominal concentration, similar material, Water accommodated fraction was tested.)

Aquatic invertebrates:

No effect up to the limit of solubility. *Daphnia magna* (Water flea) 48 h EC0 > 1 mg/l (Nominal concentration, Water accommodated fraction was tested.)

Algae:

No effect up to the limit of solubility. *Pseudokirchneriella subcapitata* (green algae) 72 h EC0 > 1 mg/l (Nominal concentration, Water accommodated fraction was tested.)

Microorganisms:

Practically nontoxic. Respiration inhibition / Activated sludge 30 min EC0 > 1,000 mg/l (Nominal concentration, similar material, Water accommodated fraction was tested.)

Chronic toxicity to aquatic plants:

No effect up to the limit of solubility. *Pseudokirchneriella subcapitata* (green algae) 72 h NOEC r

Data for Silica gel, pptd., cryst.-free (112926-00-8)**Aquatic toxicity data:**

No effect up to the limit of solubility. *Brachydanio rerio* (zebrafish) 96 h LC0 > 10,000 mg/l (nominal concentrations reported)

Aquatic invertebrates:

No effect up to the limit of solubility. *Daphnia* (water flea) 24 h LC0 > 10,000 mg/l (nominal concentrations reported)

Chronic toxicity to aquatic plants:

No effect up to the limit of solubility. *Desmodesmus subspicatus* (green algae) 72 h NOEC > 10000 mg/l (Nominal concentration)

LUPEROX® AIR™ XL**Data for Proprietary component (Proprietary)****Aquatic toxicity data:**

No effect up to the limit of solubility. Oncorhynchus mykiss (rainbow trout) 96 h LC0 < 1 mg/l (Nominal concentration)

Aquatic invertebrates:

No effect up to the limit of solubility. Daphnia magna (Water flea) 48 h EC 5 = 54 mg/l (Nominal concentration)

Algae:

No effect up to the limit of solubility. Desmodesmus subspicatus (green algae) 72 h ErC50 > 40 mg/l (Nominal concentration)

Microorganisms:

Activated sludge 3 h EC50 > 10,000 mg/l (Nominal concentration)

Chronic toxicity to fish:

No effect up to the limit of solubility. Danio rerio (zebra fish) 35 d NOEC > 10 mg/l (Nominal concentration)

Chronic toxicity to aquatic invertebrates:

No effect up to the limit of solubility. Daphnia magna (Water flea) 21 d NOEC > 10 mg/l (Nominal concentration)

Chronic toxicity to aquatic plants:

No effect up to the limit of solubility. Desmodesmus subspicatus (green algae) 72 h NOEC > 40 mg/l (Nominal concentration)

Data for Peroxide, 1,1-dimethylethyl 1-methyl-1-[3-(1-methylethenyl)phenyl]ethyl (96319-55-0)

Information given is based on data obtained from similar substances.

Aquatic invertebrates:

Toxic. Daphnia magna (Water flea) 48 h EC50 = 4.3 mg/l

Algae:

No effect up to the limit of solubility. Pseudokirchneriella subcapitata (green algae) 72 h ErC50 > 100 mg/l (nominal concentrations reported)

Microorganisms:

No effect up to the limit of solubility. Activated sludge 58 h NOEC (Respiration inhibition) = 100 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.

Take appropriate measures to prevent release to the environment.

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14. TRANSPORT INFORMATION

US Department of Transportation (DOT)

UN Number : 3106
Proper shipping name : Organic peroxide type D, solid
Technical name : (Di-(tert-butylperoxyisopropyl) benzene, >42-100%)
Class : 5.2
Marine pollutant : no

International Maritime Dangerous Goods Code (IMDG)

UN Number : 3106
Proper shipping name : ORGANIC PEROXIDE TYPE D, SOLID
Technical name : (DI-(TERT-BUTYLPEROXYISOPROPYL)BENZENE, >42-100%)
Class : 5.2
Marine pollutant : no

15. REGULATORY INFORMATION

Chemical Inventory Status

US. Toxic Substances Control Act	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)	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.

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SARA Title III - Section 311/312 Hazard Categories:

Reactivity Hazard, 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

<u>Chemical name</u>	<u>CAS-No.</u>
Silica gel, pptd., cryst.-free	112926-00-8

Pennsylvania Right to Know

<u>Chemical name</u>	<u>CAS-No.</u>
Peroxide, [1,3(or 1,4)-phenylenebis(1-methylethylidene)]bis[(1,1-dimethylethyl)	25155-25-3

Proprietary additive	Proprietary
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Silica gel, pptd., cryst.-free	112926-00-8
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Proprietary component	Proprietary
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California Prop. 65

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

<u>Chemical name</u>	<u>CAS-No.</u>
Lead	7439-92-1

Nickel	7440-02-0
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California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

<u>Chemical name</u>	<u>CAS-No.</u>
Lead	7439-92-1

LUPEROX® AIR™ XL**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3.**

H242 Heating may cause a fire.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.
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: 200015223
Date of Revision: 08/03/2018
Date Printed: 08/04/2018

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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

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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.