LUPEROX® BY ARKEMA

Luperox® PNP-25

Product Description

Luperox® PNP-25 is an organic peroxide paste from Arkema Inc. applicable in solid surface acrylics, polyester cure, cast acrylics and seaming compounds. It is a room-temperature stable, non-phthalate paste that can be cured with strong bases or metal oxides. In end products that must avoid color from metal promotors, or yellowing from exposure to sunlight Luperox® PNP-25 is an ideal initiator.

Chemical Name	CAS-No.	Wt/Wt	OSHA Hazardous
Proprietary diluent	Proprietary*	≥ 45 - ≤ 55 %	Y
2-Propeneperoxoic acid, 3-carboxy-, 1-(1,1-dimethylethyl) ester, (2Z)-	1931-62-0	≥ 25 - < 27 %	Y
Octadecanoic acid, zinc salt	557-05-1	≥ 10 - < 20 %	Y
Proprietary inert diluent	Proprietary*	≥ 5 - < 15 %	Y

The substance(s) marked with a "Y" in the Hazard column above, are those identified as hazardous chemicals under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200). This material is classified as hazardous under Federal OSHA regulation.

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

Typical Physical Properties

Color	white-cream
Physical State	Liquid (paste)
Density	1.03 @ 25°C
Melting/Freezing Point	No data available
Viscosity	4,000-20,000 cps @ 25°C
1-Hour Half-Life Temperature	111°C (232°F)
10-Hour Half-Life Temperature	87°C (189°F)
A [O]:	2.13-3.30%

Applications

Luperox® PNP-25 is an initiator designed to be used in elevated or room temperature cured systems depending on upon promotion scheme. It is suitable in both UPR and Acrylic based resin systems.

For elevated temperature applications (i.e., molding compounds, filament winding, etc) the correct use of Luperox® PNP-25 is to add an amount between 1.5 parts per hundred resin weight (phr) and 3.0 phr, depending upon length of time needed for pot life. Along with the initiator paste, you will need to promote the cure with approximately 0.5 phr of Calcium Hydroxide and an equal amount of water (use of less is possible, depending on formulation). For room temperature curing, a quantity equal to 0.1 to 0.3 phr of EGDMA (Ethylene glycol dimercaptoacetate, CAS #123-81-9) or similar thio based copromoter should be used.

If you have further questions, please contact Arkema's Technical Service for advice on use and applications.

Storage

Store in cool, dry, well ventilated area away from flammables, strong oxidizing agents, in particular, promoters. Store product only in original containers. DO NOT return material to original containers. Leaking containers should be removed, and isolated in a safe area. Repackage or dispose (see Disposal) as soon as possible. Post "No Smoking" and "Organic Peroxide Storage-Keep Fires Away" signs.

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 storage containers, including pails, drums and IBCs, must be bonded and grounded during filling and emptying operations. Limit indoor storage to areas equipped with appropriate automatic sprinkler system. 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 OSHA 29 CFR 1910.106 and NFPA 30, 70, 77, 400 and 497.

Recommended Storage Temperature:	< 30°C (86°F)
Maximum Allowed Storage Temperature:	38°C (100°F)
SADT:	>50°C, (>122°F)

Handling

- Wear safety glasses or goggles and gloves.
- Bring in only enough peroxide for one working shift.
- Keep away from hot steam lines and radiators, sparks, and open flames.
- Do not add to hot (over 120°F) solutions.
- Drain and discard catalyst vessel contents if operation is to be shut down for one or more working shifts.
- Keep container closed to prevent product contamination.
- Use only with adequate ventilation.
- Wash thoroughly after handling.
- Check that all equipment is properly grounded and installed to satisfy electrical classification requirements. Emptied container retains vapor and product residue.
- Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

Do not cut, drill, grind, or weld on or near this container.

Spillage

In case of spill or leak

Extinguish sources of ignition nearby and downwind. Evacuate area of all unnecessary personnel. Ventilate the area. Pick up with inert absorbent material (e.g. sodium bicarbonate, sodium carbonate, calcium carbonate, clean sand or non-acidic clay). Wet with water, sweep into clean polyethylene bags and transfer to disposal area (see Disposal). Do not allow to enter soil, waterways or waste water channels. 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.

Disposal

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.

Fire

Flash point	>100°C (212°F) (closed cup)
Auto-ignition temperature:	no data available
Lower flammable limit (LFL):	no data available
Upper flammable limit (UFL):	no data available

Extinguishing media (suitable)

Dry chemical, water spray, foam, carbon dioxide

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
- Hazardous organic compounds

First Aid

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Skin

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

Eyes

Immediately flush eye(s) with plenty of water. Get medical attention immediately if irritation persists.

Ingestion

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

Shelf-Life

Luperox® PNP-25 is stable at room temperature, but exhibits some phase separation upon prolonged standing. Practice FIFO (First In First Out) to minimize phase separation issues. Any phase separation of the product should be remixed before use. If stored at or below 86°F (30°C) Luperox® PNP-25 should be acceptable for use for a period of 3 months after delivery. Container dating is recommended.

Equipment

- Recommended materials of construction: 304 and 316 stainless, Teflon®, Nylon, Kynar® and Kel-F.
- AVOID materials such as copper, brass, mild steel, aluminum alloys, natural and synthetic rubbers.
- Grounded, bonded electrical installations of approved explosion proof construction (NEMA Class I, Group D, Division 1).
- Keep scrupulously clean and protect from accidental contamination, e.g., dust, overspray, pumps.
- Pumping/Metering – Low speed, positive displacement pumps recommended. Diaphragm and centrifugal pumps are satisfactory provided that fluid transfer does not result in excessive heat build-up.

Packaging

- Available — 5 gal. (40 lb./18.1 kg) polyethylene container.
- Available — 55 gal. (400 lb/181 kg) Drum.
- Available — 165 gal. 1400 lb Tote (Domestic only).
- Available — 330 gal. 2800 lb Tote. (Domestic only).

Availability

Marketed worldwide by specialized distributors serving the reinforced plastics industry. For the location of your nearest distributor, contact the Arkema Functional Additives Sales Department:

Region	Contact Phone Number
North America	1 800 331 7654
Central America	+ 52 55 5002 7118
South America	+ 55 11 2148 8560
Europe	+ 33 149 007 140
China	+ 86 21 6147 6888
India	+ 91 44 4219 7400
Korea	+ 82 55 587 8060
Southeast Asia	+ 66 2 237 6257

Technical Support

Arkema offers complete technical service and assistance in formulating with Luperox® PNP-25. Our laboratories and personnel are ready to assist you in any phase of your evaluation, from formulation development to end product testing. For additional information on Luperox® PNP-25 please contact your account rep.

References

For environmental, safety and toxicological information, contact our Customer Service Department at 1-800-331-7654 to request a Material Safety Data Sheet or visit our website at www.luperox.com.

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