PELS® ANHYDROUS CAUSTIC SODA BEADS

CAS Number:	1310-73-2
Synonyms:	dry sodium hydroxide, beaded caustic soda, solid caustic soda beads
Chemical Formula:	NaOH
Molecular Weight:	40.0
Description:	Pels® Anhydrous Caustic Soda Beads are white and spherical. Dry caustic soda has a white color and a microcrystalline structure. It is anhydrous, hygroscopic (attracting moisture) and deliquescent (dissolving in moisture absorbed from the atmosphere) and reacts with carbon dioxide in the air to form sodium carbonate.

Product Overview

Pels® Anhydrous Caustic Soda Beads (Pels beads) are a convenient form of dry caustic soda offered by Westlake Corporation. The tiny beads, close to ¾ millimeter in diameter, offer superior properties: little or no dust, excellent flow properties, uniform size, excellent blending characteristics, structural strength, high bulk density and low moisture pickup, resulting in less caking or lumping. Westlake Corporation's Natrium, West Virginia site is the only North American producer of beaded caustic soda.

Production

Westlake produces Pels beads using premium grade liquid caustic soda, with an average diameter of ¾ millimeter, corresponding to 25 mesh. Pels beads offer improved properties over other forms of beaded caustic. The spherical shape, having a minimum surface area per pound, minimizes moisture pickup. Freedom from dust on the bead surface also slows moisture pickup. The remarkable size uniformity of Pels beads eliminates storage bin segregation and reduces the likelihood of hang-up due to bridging. The spherical shape also enables Pels beads to roll and flow easily. Using a closed-loop pneumatic conveying system for bulk shipping and unloading, the beads are easier to convey and produce far less dust than flakes.

Uses

The variety of uses for Pels beads is derived mainly from its reactivity as a strong alkali. Users must be aware, many of the downstream applications require registrations and/or approvals from regulatory authorities.

Possible uses are described below:

- **General and Industrial Cleaning** - A strong base like Pels beads can be used as an alkali source in cleaning agents. They can dissolve grease, oils, fats and protein-based deposits. Pels beads caustic soda solutions with added surfactants stabilize dissolved substances and prevents re-deposition. Pels beads can also be used to clean and prepare sheet steel in galvanizing plants, and as the chief ingredient for drain pipe cleaners.
- **Soap and Detergent** - Pels beads saponify fats into water-soluble sodium soaps.
- **Petroleum Exploration** - Pels beads can be used as a treating agent in oil well drilling fluids. They can also be used to increase viscosity, which prevents heavier materials from settling.
- **Food and Dairy** - Pels beads can be used in various food processing methods. This includes washing and chemical peeling of fruits and vegetables, poultry, soft drink, chocolate and cocoa processing, and thickening ice cream.
- **Textile Treatment** - Pels beads can be used as an aid in scouring, bleaching and neutralizing during textile processing.
- **Chemical Production** - Besides their use as a reactive intermediate and catalyst in chemical production, Pels beads can also be used in chemical processing plants for scrubbing and drying.

- **Biodiesel and Bioethanol** - In manufacturing biodiesel and bioethanol, Pels beads can be used as a catalyst for the transesterification of methanol and triglycerides, and used for pH adjustment and formation of in situ sodium methylate. Anhydrous Pels beads are required, because the presence of water would form soap.
- **Metal Cleaning** - Pels beads can clean metals by saponifying surface oils to create a thin soapy layer. In certain types of metals, it can be used to etch the surface, an important preparatory step in many welding or painting applications.
- **General Industrial** - Pels beads can be used in a variety of plants making products ranging from glue, gelatin, grease and cosmetics to dry batteries, agricultural products, and paint and varnish removers.

Understand and follow all content provided on the Pels beads Safety Data Sheet (SDS) and label prior to use. It is also strongly recommended that each individual who may come in contact with this product be given the opportunity to review this Product Stewardship Summary.

Health Effects

Wear appropriate personal protective equipment when handling Pels beads. Eye contact with Pels beads causes serious eye damage, which includes irreversible damage and blindness; repeated or prolonged exposure may cause conjunctivitis. Skin contact causes severe burns; repeated or prolonged exposure to the skin will cause dermatitis. Ingestion of Pels beads may cause irreversible damage to mucous membranes in the mouth, throat, esophagus, stomach, and gastrointestinal tract. Inhalation of caustic soda may cause corrosive burns, including irreversible damage to the respiratory tract. Repeated or prolonged exposure to corrosive materials or fumes, even at low levels, may cause acute and/or chronic respiratory irritation.

Before handling, it is important to ensure engineering controls are functional and protective equipment requirements and personal hygiene measures are being followed. People working with this chemical should be properly trained regarding the hazards and safe use of caustic soda.

Environmental Effects

Pels beads should be kept out of lakes, streams, ponds, or other water sources as it could elevate the pH and negatively impact local wildlife. See exposure potential for more information.

Pels beads are highly soluble in water and do not bioaccumulate.

Exposure Potential

Precautions should be taken to minimize opportunities to harm people, animals and the environment. The potential for exposure may vary depending upon site-specific conditions. When handling Pels beads, refer to the current GHS compliant SDS and label and follow all instructions and warnings throughout this summary.

Based on the expected uses for Pels beads, exposure could be through:

- Workplace exposure - Exposure can occur in a manufacturing facility or various industrial settings.
  Caustic soda has been used by industry for more than 100 years. Exposures most frequently occur to the skin and eyes, however, oral exposure via inhalation and ingestion are possible. Good industrial hygiene practices and the use of personal protective equipment when combined with proper training and environmental, health and safety practices will contribute to a safe work environment.
- Environmental releases - In the event of a spill, contain the product to prevent contaminated soil, surface water or ground water. Pels beads can significantly increase the pH of soil and water. Facilities handling Pels beads should have a workplace spill program in place, which includes employee training and considers minor spills

around loading and unloading operations and storage tanks. Many aspects of a spill control program are mandated by federal, state and local authorities. In addition, if a spill occurs, governmental reporting may be required.

- Consumer exposure - Pels beads are not sold to consumers; however, it is used as an ingredient in some consumer products. Refer to the supplier's safety documentation in the event of an exposure. Always keep chemical products out of the reach of children.

Safe Handling and Storage

The proper way to use Pels beads when making a solution or dilution is to *slowly* ADD THE BEADS to the surface of cold water and agitate while they dissolve in an effort to avoid a violent exothermic eruption or explosive reaction. Rapidly adding Pels beads to a solution is dangerous. Do not add water or other solutions TO THE BEADS directly, unless instructed to do so by expert personnel. Do not add to warm or hot water as this will increase the chance of causing an unstable exothermic reaction. Avoid contact with organic materials and concentrated acids as this may also cause violent reactions. Note, there is a chance a layer of concentrated solution may form and suddenly mix with a layer of less concentrated solution resulting in a violent reaction described above.

Besides reacting vigorously with many organic materials, caustic soda attacks certain metals including aluminum, magnesium, zinc, tin, chromium, brass, and uniquely bronzes that are made with zinc or tin. Additionally, zinc is used to galvanize iron and steel, so Pels beads will attack galvanized iron and steel surfaces. These reactions may be dangerous as hydrogen is generated and could introduce an explosion hazard. Pels beads can also react with various food sugars to generate hazardous carbon monoxide gas. Note, properly treated steel drums can be used to transport this material.

During stock rotation, due to its hygroscopic nature, Pels beads inventory should be rotated using the First-In First-Out (FIFO) inventory method in an effort to ensure that all product is consumed within 180-days. This will minimize any product agglomeration in the package.

Store locked up in a tightly closed container away from incompatible materials and ensure there is proper ventilation. Always take precautions to minimize potential harm to people, animals, and the environment.

Packaging and Shipping

Westlake offers Pels beads in a variety of package options and shipping methods to meet individual customer needs. It is shipped in 100-pound and 500-pound steel drums, in 500-pound fiber drums, in 2000 and 2200-pound FIBC (Flexible Intermediate Bulk Containers), and in 50-pound bags. All drums and bags are moisture-resistant and are delivered by truck. Westlake uses bulk hopper railcars and trailers designed for pressure differential offloading for closed system delivery (CSD) of Pels beads in bulk. The capacity of a bulk hopper car is approximately 95 tons, and a bulk hopper trailer holds approximately 20 tons.

Bag shipments can be supplied on sturdy pallets protected by a shrink-wrapped polyethylene film. The bag has multiple layers including two moisture barriers: a heat-sealed polyethylene liner and a polyethylene ply. The bag exceeds Department of Transportation drop test standards for multiwall packages. Accelerated tests in a "jungle room" showed that the moisture vapor did not reach the anhydrous caustic soda beads. Drop tests performed after the "jungle room" showed virtually the same results as prior to the exposure.

Fire and Explosion Hazards

Pels beads by themselves are not flammable or explosive. However, caustic soda reacts with many metals resulting in extremely flammable hydrogen gas, which can form an explosive mixture in air.

During a fire, promptly isolate the scene by removing all persons from the vicinity of the incident. No other action shall be taken without suitable training. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Physical and Chemical Properties

Pels beads are white and spherical. Dry caustic soda has a white color and a microcrystalline structure. It is anhydrous, hygroscopic (attracts moisture) and deliquescent (dissolves in moisture absorbed from the atmosphere) and reacts with carbon dioxide in the air to form sodium carbonate.

Properties of Pels® Anhydrous Caustic Soda Beads	
Boiling Point	2534°F (1390°C)
Melting Point (crystallization begins)	590-608°F (310- 320°C)
Specific Gravity	2.13
Bulk Density **Compacted** **Loose**	 73 lb/ft 70 lb/ft
pH	Strongly Basic Solid
Solubility in Water **At 0°C (32°F):** **At 100°C (212°F):**	 42 g/100 g water 347 g/100 g water
Solution Rate	Twice as fast
Refractive Index	1.3576
Particle Shape	Spherical
Flowability	Excellent
Friability	Very Low
Dust	Very Low
Typical Screen Analysis (US Mesh) **14** **16** **20** **25** **30** **35** **60** **170**	Weight % on Screen <1 3 31 41 17 5 2 <1

North American Regulatory Information

- **CONEG Regulation/Model Toxics in Packaging Legislation** — Lead, cadmium, mercury and hexavalent chromium are not intentionally added to Pels beads, and based on the formula and Westlake's experience with the product, the sum of the incidental concentration levels of these metals is not expected to exceed 100 parts per million (ppm) by weight.
- **RCRA** — If Pels beads are discarded or spilled in an industrial setting, including other wastes generated during use of caustic soda or containing caustic soda, they may exhibit one or more hazardous waste characteristics under 40 CFR 261.24, including D002 – corrosive.

Note: Westlake provides information on U.S. hazardous waste criteria for the product as manufactured. It remains the obligation of the user to evaluate their specific waste and to manage, treat, and dispose of unused material, residues, and containers in accordance with applicable federal, state, and local requirements.

- **VOC Information** —Pels beads do not contain constituents that qualify as volatile organic compounds (VOC) based on the definition in 40 CFR 51.100.
- **HAP Information** — Pels beads do not contain hazardous air pollutants (HAPs) as listed in the Clean Air Act Amendments of 1990, 42 USC 7412 (b) at levels that exceed 100 ppm.
- **Ozone-Depleting Chemicals** — Pels beads do not contain ozone depleting chemicals (40 CFR 82, Subpart A, Appendix F).
- **Toxic Pollutants / Priority Pollutants** — Pels beads do not contain substances listed as a toxic pollutant/priority pollutant in 40 CFR 401.15 and/or 40 CFR 423 Appendix A at levels that exceed 100 ppm..
- **CERCLA Hazardous Substance** — Pels beads (caustic soda) appears in the List of Hazardous Substances and Reportable Quantities table (40 CFR 302.4) with a reportable quantity (RQ) of 1,000 pounds (454 Kg).
- **TSCA Information** — All of the components of Pels beads are listed on the TSCA inventory as active under TSCA Section 8(b). This product is not currently subject to any rule or order under TSCA Sections 4, 5(a), 5(e), 6(a), 7, or 12(b).
- **Canada DSL/NDSL Inventory** — All components of Pels beads are listed on the Canadian Domestic Substances List (DSL); no components are listed on the Non-Domestic Substances List.
- **California Proposition 65** —Pels beads can expose you to chemicals nickel and mercury which are known to the State of California to cause cancer, birth defects or other reproductive harm.
- **Washington State Children's Safe Product Act (CSPA)** — Pels beads do not contain components listed under the Children's Safe Product Act (CSPA, 70.240) at levels that exceed 100 ppm.
- **U.S. Food and Drug Administration** —The chemical, caustic soda, is designated by the FDA as a food additive Generally Recognized as Safe (GRAS) when used in accordance with good manufacturing practices (21 CFR 184.1763). Westlake's Natrium facility does not have a formal good manufacturing practices program in place, and it remains the responsibility of the user to ensure that Pels beads purchased from Westlake are fit for your application or end use as a food additive or food processing agent. Caustic soda is also specifically approved for use per the following FDA citations: 21 CFR 172.892 (Food Starch-Modified, modified up to 1%), 21 CFR173.310 (Boiler Water Additive), 21 CFR 177.1600 (Polyethylene Resins, Carboxyl Modified). It is also cleared for reaction with fatty triglycerides and their fatty acid, alcohol, or dimer derivatives listed in 21 CFR 176.210 to form soaps under 21 CFR 175.105 (Adhesives), 21 CFR 176.210 (Defoaming Agents used in the manufacture of paper and paperboard), and 21 CFR 178.3120 (Animal Glue).
- **Registration of Food Facilities (FDA Bioterrorism Act of 2002 Section 305)** — The following manufacturing facilities have been registered with the FDA: Natrium, West Virginia.

European Regulatory Information

- **RoHS 3** — Pels beads have been reviewed with regard to the RoHS 3 (EU 2015/863). Based on our knowledge of this product and information on the raw material suppliers' Safety Data Sheets, this product does not contain cadmium, hexavalent chromium, lead, mercury, polybrominated biphenyls (PBBs), polybrominated diphenyl ethers (PBDEs), bis (2-ethylhexyl) phthalate (DEHP), butyl benzyl phthalate (BBP), dibutyl phthalate (DBP), or diisobutyl phthalate (DIBP) at levels greater than the tolerated maximum concentration values established by the directive.
- **Waste Electrical and Electronic Equipment Directive (WEEE)** — Pels beads have been reviewed to the WEEE directive (2002/29/EU). Based on our knowledge of this product and information on the raw material suppliers' Safety Data Sheets, this product does not contain any substances at levels greater than the maximum concentration established by the directive.

- **Substances of Very High Concern (SVHC)** — Pels beads do not contain SVHC's at levels that exceed 100 ppm 0.1% as published in accordance with Article 59(10) of the REACH Regulation as of July 2018, nor does this product contain any substances on Annex XIV (Authorisation List).
- **European Food Additive/Contact** —The chemical, caustic soda, is an approved Food Additive in the European Union as listed in EU No 231/2012 with the identifier E 524.
- **Germany Federal Agency for Agriculture and Food BfR Recommendations on Food Contact Materials** — The chemicals caustic soda and sodium carbonate are approved for use in BfR Recommendation XXXVI/2: Paper and Paperboard for Baking Purposes, Section II.B- Production Aids- Precipitating, Fixing and Parchmentisation Agents. Sodium chloride is listed as approved for use in BfR Recommendation XXXVI. Paper and board for food contact, Section C. II- Special Paper refining agents- Humectants.
- **Regulation (EC) No 1223/2009 of the European Parliament and of the Council**— Pels beads contain trace amounts of substances listed in Chapter IV, Article 14- Substances Prohibited in Cosmetic Products and Chapter IV, Article 15 - Substances classified as CMR Substances.
- **EU Allergens (26 Allergens)** — Pels beads do not contain substances on the EU list of 26 Fragrance Allergens.

Asia-Pacific Information

- **Australia Inventory of Chemical Substances (AICS)** — All components of Pels beads are listed or compliant with the Australia Inventory of Chemical Substances.
- **China Inventory of Existing Chemical Substances (IECSC)** — All components of Pels beads are listed or compliant with the China Inventory of Existing Chemical Substances.
- **Japanese Existing and New Chemicals Inventory (ENCS)** — All components of Pels beads are listed or compliant with the Japanese Existing and New Chemicals Inventory.
- **Korean Existing Chemicals Inventory (KECI)** — All components of Pels beads are listed or compliant with the Korean Existing Chemicals Inventory.
- **New Zealand Inventory of Chemicals (NZIoC)** — All components of Pels beads are listed or compliant with the New Zealand Inventory of Chemicals.
- **Philippine Inventory of Chemicals and Chemical Substances (PICCS)** — All components of Pels beads are listed or compliant with the Philippine Inventory of Chemicals and Chemical Substances.
- **Taiwan Existing Chemical Notification List** — All components of Pels beads are listed or compliant with the Taiwan Existing Chemical Notification List.
- **ASEAN Cosmetic Directive** — Pels beads are not compliant with the ASEAN Cosmetic Directive as it contains trace amounts of substances found in Annex II Part 1: List of substances which must not form part of the composition of cosmetic products.
- **Chinese Cosmetic Products** — Pels beads do not comply with Chinese Cosmetic Products, as it contains trace amounts of substances found on the Inventory of Prohibited Cosmetic Ingredients in China, and therefore, cannot be used in cosmetic products.
- **NMPA Code/Annex 14** — Pels beads and its substances are not listed in the NMPA Code/Annex 14 approved substances.

Product Certifications and Listings

- **American Water Works Association Standard** — Pels beads conform to the chemical identity, physical composition and packaging requirements of the AWWA Standard for caustic soda, ANSI/AWWA B501-19.
- **ISO 9001 Certification** — The following Pels beads manufacturing facilities are ISO 9001 certified: Natrium, West Virginia.
- **NSF Standard 60 Drinking Water Treatment Chemicals** — Pels beads have the Health Effects listing, and each grade is certified for maximum use levels as noted on the NSF website, which can be viewed at

www.nsf.org/certified/PwsChemicals.

- **NSF White Book** — The NSF International White Book Listings of USDA Authorized or NSF Registered Nonfood Compounds for Pels beads are A2 (Compounds for use in soak tanks), G6 (Treating boilers with edible product contact), 3B (Hog scald agents) and 3C (Tripe denuding, bleaching, and neutralizing agents). These can be viewed on www.nsf.org/usda/psnclistings.asp.
- **USP/NF Residual Solvents** — Although only technically applicable for pharmaceutical purposes, Westlake does not use any Class 1, Class 2 or Class 3 (or any combination thereof) residual solvents, as denoted within USP Chapter <467>, during the manufacture of Pels products.

Additional Product Information

- **Additives/Preservatives/Flavorings** — The following are not used by Westlake facilities in the manufacture of Pels beads:

Adipate	Ethylene Oxide	PAH
Artificial Colors/Color Additives	Free Glutamate	Phosphates
Benzopyrene	Gelatin	Phthalates
BPA (Bisphenol A)	Hormones	Potassium Bromate
Caramel Color	Iodine	Psyllium
Chloramphenicol	Jatropha Plant	Sodium Benzoate
DEHP	Lactose	Sorbic Acid
Diacetyl	Latex	Starch
Diethylene Glycol	Maleic Acid	Sudan Red
Dioxin	Melamine	Titanium Dioxide
Diphenylamine	MSG	4-Methylimidazole
DMAA	Palm Oil	Nonylphenol Ethoxylates
Dyes/Food Dyes	Parabens	Alkylphenol Ethoxylates

- **Allergenic Materials** — The following allergenic materials are not used in the manufacture of Pels beads:

Potential Allergen	Including
Bee Products & Derivatives	Honey, pollen, propolis, royal jelly
Buckwheat Products & Derivatives	
Celery Products & Derivatives	Celery seeds
Cocoa Products & Derivatives	
Coconut Products & Derivatives	
Crustacean Products & Derivatives	Crab, crayfish, lobster, shrimp/prawn
Dairy Products & Derivatives	Cow's milk/cream, goat's milk/cream, powdered milk, butter/butter solids, butterfat, buttermilk, milk fat, casein, whey, curds, custard, cheese, yogurt, lactalbumin, lactoglobulin, lactose
Egg Products & Derivatives	Albumin, egg whites, egg yolks, eggnog, ova albumin, ovomucoid, powdered eggs, mayonnaise, meringue
Fish Products & Derivatives	Abalone, anchovy, bass, cod, flounder, herring, mackerel, pollock, salmon roe, sardine, tuna, whitefish
Fruit Products & Derivatives	Apple, apricot, banana, cherry, grapefruit, kiwi, orange, peach, plum, tomato
Grain Products & Derivatives	Wheat, rice, rye, oats, barley, spelt, kamut
Cinnamon Products & Derivatives	

Legume Products & Derivatives	Alfalfa, beans (green, kidney, lima, navy, wax), lentils, peas
Carob	Locust bean gum
Licorice	
Lupin Product & Derivatives	
Meat Products & Derivatives	Beef, chicken, pork
Mollusk Products & Derivatives	Abalone, clam, cuttlefish, mussel, octopus, oysters, periwinkle, Sassia scallops, snail, squid, whelk
Mushroom Products & Derivatives	Matsutake
Mustard Products & Derivatives	
Peanut Products & Derivatives	Peanut butter, peanut meal, peanut protein, peanut flour
Plant Nuts/Seeds/Oils	Safflower, canola
Potato Products & Derivatives	
Seed Products & Derivatives	Cotton, poppy, sesame, sunflower
Protein Hydrolysates, Soybean Products & Derivatives	Soy, miso, tofu, bean curd, edamame, isolated soy protein, hydrolyzed soy protein, textured soy protein, soy milk, soy sauce, soy nuts, soy flour, soy lecithin
Spices	
Sulfates/Sulfites & Derivatives*	Sodium metabisulfites, sodium bisulfite
Tree Nut Products & Derivatives	Almonds, brazil nut, cashew, chestnut, filberts, hazelnut, hickory, macadamia, pecans, pine nuts, pistachio, queensland nut, walnuts
Yarn Products & Derivatives	

*The Natrium facility uses sulfur dioxide in its production process (used to treat cell liquor).

- **1,4-Dioxane** — 1,4 Dioxane is not used as a raw material or intentionally added in the manufacture of Pels beads.
- **Animal Testing** — Westlake does not test Pels beads on animals or perform animal testing in connection with our production of Pels products.
- **Bovine Spongiform Encephalopathy** — Pels beads are not of animal origin and do not contribute to Transmissible Spongiform Encephalopathy (TSE)/Bovine Spongiform Encephalopathy (BSE).
- **Conflict Minerals —** Not applicable. Tantalum, tin, gold, and tungsten are not used in the production of Pels beads or its raw materials.
- **Ethylene Oxide** — Ethylene Oxide is not used as a raw material or intentionally added in the manufacture of Pels beads.
- **Genetically Modified Organisms (GMOs)** — Pels beads are not manufactured with and do not contain genetically modified organisms.
- **Gluten** — Pels beads are not manufactured with and do not contain gluten.
- **Halal** — Westlake's Pels beads are not Halal Certified. Pels beads are not derived from plant, animal, synthetic or fermentation sources. Pels beads do not contain alcohol, natural L-cysteine extracted from hair or feathers, animal fats and/or extracts, blood of any origin, blood plasma, pork, or other meat byproducts. Alcohol is not used as processing aid. As such, Pels beads may be acceptable for Halal consideration.
- **Irradiation Statement —** Westlake does not perform sterilization procedures on Pels beads, including but not limited to, irradiation, steaming, or chemical processing for the purpose of sterilization.
- **Kosher** — Westlake's Pels beads are not Kosher Certified. Pels beads, including the equipment used in its manufacture, does not come into contact with or contain any animal by-products, animal fats, or animal products, nor does it contain chemical additives that are organic in nature. According to the current policies of

the Orthodox Union (OU), Pels beads are acceptable for use in Kosher-related activities without Kosher certification.

- **Lilial** — Lilial (Butylphenyl Methylpropional) is not used as a raw material or intentionally added in the manufacture of Pels beads.
- **Lyral** — Lyral (Hydroxyisohexyl 3-Cyclohexene Carboxaldehyde) is not used as a raw material or intentionally added in the manufacture of Pels beads.
- **Microbiological Agents** — Microbiological agents are not used as a raw material or intentionally added in the manufacture of Pels beads.
- **Microplastics** — Pels beads are not manufactured with and do not contain microplastics.
- **Mineral Oil Saturated Hydrocarbons (MOSH)** - Pels beads are not derived from a petroleum source and are not manufactured with nor contain mineral oil saturated hydrocarbons (MOSH).
- **Mineral Oil Aromatic Hydrocarbons (MOAH)** - Pels beads are not derived from a petroleum source and are not manufactured with nor contain mineral oil aromatic hydrocarbons (MOAH).
- **Nanomaterials** — Pels beads are not manufactured with and do not contain nanomaterials.
- **Natural Latex Rubber** — Pels beads are not manufactured with and do not contain natural latex rubber as defined in 21 CFR 801.437(b)(1).
- **Nitrosamines** — Pels beads are not manufactured with and do not contain nitrosamines.
- **Nutritional Value** — Pels beads do not have any nutritional value.
- **Palm oil** — Pels beads are not manufactured with and do not contain palm oil.
- **Parabens** — Pels beads are not manufactured with and do not contain parabens.
- **Partially Hydrogenated Oils (PHOs)** — Pels beads are not manufactured with and do not contain Partially Hydrogenated Oils (PHOs).
- **Phthalates** — Pels beads are not manufactured with and do not contain phthalates.
- **Source/ Origin** — Pels beads are derived from a mineral source and are not derived from plant, animal, synthetic, petroleum or fermentation sources.
- **Synthetic silicone** — Synthetic silicone is not used as a raw material or intentionally added in the manufacture of Pels beads.
- **Vegan** — Westlake does not use animal material in the process of manufacturing Pels beads. Animal materials are not intentionally added to Pels beads.

Product Stewardship

Westlake Corporation is committed to overseeing the safe use of Pels beads by downstream users. Westlake encourages open communication with its customers regarding safety and environmental stewardship. The health and safety of our employees and communities, and the vigilant stewardship of the environment and sustainability are of utmost importance and at the forefront of everything we do.

Additional Information

For more information regarding Westlake's Pels beads, contact our customer service department by calling 1-800-321-8550.

References

Westlake Corporation website: www.westlake.com

Notice

Prior to its use, the user is responsible for determining the suitability of the product or products covered by this Product Stewardship Summary and for complying with all federal, state, and local laws and regulations in connection with its use. Neither Westlake Corporation nor any of its affiliates shall be responsible for any damages of any kind whatsoever resulting from the use of or reliance on this Product Stewardship Summary or product or products to which it refers.

This Product Stewardship Summary is intended only to provide a general summary of the potential hazards associated with the product or products described herein. It is not intended to provide detailed information about potential health effects and safe use and handling information and, although Westlake Corporation believes this information is correct, Westlake Corporation makes no warranties as to its completeness or accuracy. Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling the Westlake Corporation product(s) mentioned in this document. Before working with any of these products, users must read and become familiar with the available information on product hazards, proper use, and handling. Information is available in several forms, such as safety data sheets (SDS) and product labels. A copy of Westlake's SDS for Pels beads can be obtained by going to the company's website www.westlake.com.

This information is subject to change without notice.

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