

GLOSSARY OF INGREDIENT FUNCTIONS

Abrasive is a substance used to remove unwanted materials from surfaces or remove surface imperfections. Abrasives are used to smooth, scour, polish, scrub, etc.

Absorbent is a substance with a large surface area which can attract dissolved or finely dispersed substances from another medium. Absorbents are substances which imbibe the absorbate, while adsorbents are materials which attach other substances to their surface.

Adhesive is a substance used to bind opposite surfaces to each other. Adhesives are generally applied from a solvent solution and allowed to dry on the two facing surfaces.

Anti-redeposition Agent is a substance that helps keep soils from redepositing onto clothing in the wash water after they have been removed. Anti-redeposition agents are water-soluble and typically are negatively charged.

Anticaking Agent is a substance used to prevent agglomeration of a particulate solid into lumps or cohesive cakes.

Antifoaming Agent is a substance that reduces the tendency of finished products to generate foam on shaking or agitation. The ability of a material to act as an antifoam depends on its tendency to concentrate on the surface of existing or forming bubbles and to disrupt the continuous films of liquid surrounding them.

Antifreeze is a substance that is used to lower the freezing point of water or an aqueous solution.

Antifungal Agent is a substance that inhibits the growth and reproduction of fungal cells and decreases the number of fungi present. Antifungal Agent deters fungal growth and degradation of other ingredients in the formulation. It can serve as the active ingredient in FIFRA-registered products designed to inhibit fungal growth on surfaces.

Antimicrobial Agent is a substance that kills microorganisms or prevents or inhibits their growth and reproduction. An Antimicrobial Agent can be used as an antimicrobial preservative. Antimicrobial Agents are also used as active ingredients in FIFRA-registered sanitizers, disinfectants and sterilants, which are products that that destroy, neutralize, or inhibit the growth of microorganisms on a surface or in water. See also Preservative.

Antioxidant is a substance that is used to maintain the quality, integrity, and safety of finished products by inhibiting the oxidative degradation of the ingredients in the formulation. Also referred to as a preservative. See also Preservative.

Antistain Agent is a substance that provides stain blocking and soil resistance to soft surface cleaners and protectors.

Antistatic Agent is a substance that alters the electrical properties of materials by reducing their tendency to acquire an electrical charge.

Binder is a substance that is added to compounded dry powder mixtures of solids and the like to provide adhesive qualities during and after compression to make tablets or cakes.

Bittering Agent is a taste aversive ingredient added to products with the goal of deterring accidental exposure and/or intentional abuse.

Bleaching Agent is a substance that removes colors or whitens, often via oxidation. Common chemical bleaches usually include "chlorine bleach", such as sodium hypochlorite, or "oxygen bleach", which contains hydrogen peroxide or a peroxide-releasing compound together with catalysts and activators. Many bleaches have strong bactericidal properties, and are also used for sanitizing and disinfecting.

Brightening Agent is substance that is used to enhance the appearance of color of fabric and paper. Brightening agents usually absorb light in the ultraviolet and violet region (340-370 nm) of the electromagnetic spectrum, and re-emit light in the blue region (420-470 nm). This causes a "whitening" effect by increasing the overall amount of blue light reflected.

Buffable Wax is a wax applied to protect a surface that is able to be restored to smoothness by buffing (rubbing).

Buffering Agent is a substance that is used to maintain the pH of an aqueous medium in a narrow range even if small amounts of acids or bases are added. Buffering Agents and pH Adjusters are used in household products to alter and to maintain a product's pH at the desired level.

Builder is a substance that is used to bind hardness ions (mainly calcium and magnesium) in solutions, resulting in water softening.

Bulking Agent is a substance that is usually chemically inert, a solid ingredient employed as a diluent for other solids.

Candle Fuel is a substance that burns in a candle to create the flame. These substances are usually solid waxes which, when heated, form a vapor which burns at the end of the candle wick. These solid waxes are typically composed of paraffin wax, or vegetable wax primarily obtained from soybean or palm oils; other vegetable oils are used to a lesser extent. Beeswax may also be used as candle fuel. When a candle is first lit, the initial lighting melts the wax on the wick and starts the flame. Heat from the flame is conducted down the wick and melts the wax at the base. The melted wax is drawn up the wick by capillary action. The heat of the flame vaporizes the wax and it is this wax vapor that burns to provide the flame. Once lit, the candle will continue to burn because the heat of the flame continues to melt the top portion of the wax and the liquid fuel is continually drawn up the wick via capillary action into the flame.

Chelating Agent is a substance that has the ability to complex with and inactivate metallic ions. Chelation of metal ions helps prevent their adverse effects on the stability or appearance of finished products. Chelating agents are also called sequestrants.

Chlorine Scavenger is a substance used to inactivate or remove active chlorine.

Colorant is a substance that is used to color finished products.

Concrete Protection Agent is a substance that protects concrete from surface damage, corrosion, and staining.

Corrosion Inhibitor is a substance added to products in order to prevent the corrosion of metallic materials. Corrosion inhibitors are needed in many products packaged in metal containers (such as aerosol products) and are also used in such products as lubricants and other metal treatment products to provide protection to the substrates on which the lubricants are used.

Coupling Agent is a chemical substance capable of reacting with both the reinforcement and the resin matrix of a composite material.

Dedust Oil is a substance that is used to remove dust and other fine impurities.

Deicer is a substance that is used to melt or to prevent the formation of ice.

Denaturant is an ingredient added to ethyl alcohol to make it unsuitable for ingestion. The chemical substances used usually have an aversive taste that renders the alcohol unpalatable. The use and the requirements for denaturants in the U.S. are controlled by the U.S. Department of Treasury, Bureau of Alcohol, Tobacco, and Firearms. Constituents of the formulas for denaturing ethanol are specified in Title 27 of the Code of Federal Regulations, Part 21.

Deodorizing Agent is a substance that reduces or eliminates unpleasant odor and protects against the formation of malodor on body surfaces.

Descaler is a substance that prevents the buildup or removes limescale and fouling. Descalers usually are acids such as acetic acid, lactic acid, citric acid, phosphoric acid, hydrochloric acid, sulfamic acid to remove limescale buildup, chelators such as EDTA and phosphonates to prevent limescale buildup, and biocides such as sorbic acid to prevent microbial and algal growth.

Detergent Additive is a substance incorporated in formulations that gives them the property of keeping insoluble material in suspension. This includes surfactants, builders, chelators, and other ingredients with specific functions.

Diluent is a substance that is a component of an ingredient or an ingredient in a formulated product that serves primarily to reduce the concentration of the other ingredients. Components

added to ingredients will be considered Diluents in Ingredient Monographs only if they do not serve a specific function in the final product formulation. The term is most often used for liquid formulations, with the term Filler used for solid or powder formulations.

Discoloration Inhibitor is a substance that increases a surface's ability to resist color fading. Discoloration inhibitors can also maintain a finished product's original color and luster aesthetics longer through multiple mechanisms.

Dispersing Agent is a substance that is either a non-surface active polymer or a surface-active substance added to a suspension, usually a colloid, to improve the separation of particles and to prevent settling or clumping.

Durability Agent is an ingredient added to increase the durability and therefore the functional life of a material.

Dye Transfer Inhibitor is a substance that prevents the transfer of dyes from one garment to another in the wash water.

Emulsion Component is a substance that constitutes a phase in suspension of small globules of two or more liquids that do not mix.

Emulsion Stabilizer is a substance that assists in the formation and the stabilization of emulsions. Inclusion of emulsion stabilizers enhances the activity of emulsifiers. Emulsion stabilizers prevent or reduce the coalescence of emulsified droplets by modifying the continuous or the disperse phase of the emulsion. This stabilization may result from electrical repulsion, from changes in viscosity, or from film formation on the droplet surface.

Enzyme Stabilizer is a substance that maintains the activity of enzymes in the formulation by preventing degradation and denaturation prior to use.

Etching Agent is a substance that removes unprotected areas of metal or glass surfaces. Etching agents are usually acids or bases.

Filler is an ingredient added to fill out a dry product formulation and to lower the concentration of other ingredients.

Film Former is a substance that produces a continuous film on the material's surface upon drying.

Flame Retardant is a substance that is used in finished products to make them resistant to fire.

Flocculant is a substance that is used to promote formation of larger-size clusters in a dispersion. Flocculants cause colloids and other suspended particles in liquids to aggregate and to form flocs or flakes.

Foam Booster is a substance used in detergents to increase foam production and stabilize lather.

Fragrance Component is a substance, which according to the International Fragrance Association, is "any basic substance used in the manufacture of fragrance materials for its odorous, odor-enhancing or blending properties. Fragrance ingredients may be obtained by chemical synthesis from synthetic, fossil, or natural raw materials, or by physical operations from natural sources. The function comprises aroma chemicals, essential oils, natural extracts, distillates and isolates, oleoresins, etc." Additionally, for purposes of labeling under "Fragrance" or "Parfum", the term Fragrance Ingredient signifies "any natural or synthetic substance or substances used solely to impart an odor to a cosmetic product" [21CFR700.3 (d)].

Fragrancing Compound is a formulated chemical mixture that has a smell or odor.

Fuel Additive is a substance incorporated in fuels that improves fuel performance, enhances combustion properties, maintains the fuel system and/or stabilizes the fuel.

Gloss Agent is a substance that is used to alter the optical property of a paint finish to reflect light in a specular direction and to improve the visual appearance of a surface.

Horticultural Spray Oil is a substance that is used to control insects and mites on plants. Horticultural Spray Oil is usually applied as a dilute spray on plant surfaces.

Humectant is a substance that is used to retard moisture loss from the product during use. This function is generally performed by hygroscopic materials. The efficacy of humectants depends to a large extent on the ambient relative humidity.

Leveling Agent is a substance (usually organic) which encourages the formation on an even surface upon drying, such as in a polish or coating.

Lubricant is a substance introduced between two moving surfaces to reduce the friction between them, improve efficiency, and reduce wear.

Lytic Agent is a substance which helps to break down lipids, proteins, and polysaccharides usually by enzymatic or other action.

Opacifying Agent is a substance that is added to finished products to reduce their clear or transparent appearance.

Oxidizing Agent is a substance that gains electrons during their reaction with a reducing agent. Oxidizing agents commonly contribute oxygen to other substances. In consumer products, most oxidizing agents are bleaching agents.

Paint Additive is a substance that changes characteristics of paints in consumer specialty products. Paint Additives may be used to make paints better resist wear, tear, and stains. Additives usually represent a family of functional fillers, surfactants, acceleration agents, and

other additives for architectural and industrial paints, coatings, and construction materials, such as caulk and grout.

Pesticide Active is a substance defined in the U.S. EPA regulations as "any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating the effects of any pest" (40 CFR455.10). Pesticide products are formulated with active ingredients that meet the above definition, along with additional inert ingredients.

pH Adjuster is a substance that is used to control the pH (hydrogen ion concentration) of finished products. Common pH adjusters are acids, bases, or buffering agents.

Pigment Extender is a substance used as an additive to paints to lower their cost or improve their properties, such as to improve texture or reduce gloss. Pigment extenders are also called filler pigments. They are usually finely ground natural materials that do not have effect on the color of the pigment.

Plasticizer is a substance that softens synthetic polymers. Plasticizers are frequently required to avoid brittleness and cracking of film formers. A variety of organic substances, such as esters, have been found useful for plasticizing synthetic polymers.

Plating Agent is a substance that is used for surface-covering where a metal is deposited on a conductive surface.

Polishing Agent is a substance that creates a smooth and shiny surface by mechanical action.

Polymer Cross Linking Agent is a substance that is used for multiple chemical bonding to connect two or more polymer chains to each other.

Preservative is a substance that prevents or retards microbial growth or chemical degradation of other ingredients and thus protects finished products from spoilage. The use of more than one preservative can sometimes increase efficacy due to synergism. Ingredients used to protect products against oxidative damage are also classified as antioxidants. It is also the active ingredient in FIFRA-registered products designed to inhibit microbial growth, and sometimes referred to as an antimicrobial agent. See also Antimicrobial Agent and Antioxidant.

Processing Aid is a substance that is added to a material during processing and may be removed from the finished product, converted into constituents in the finished products, or remains present in the finished product. Processing Aid does not have any function in the finished consumer specialty product.

Propellant is a substance that is used for expelling products from pressurized containers (aerosol products). The functionality of a propellant depends on its vapor pressure at ambient temperature and its compressibility. Liquefied gases or compressed gases can be used as

propellants as long as the pressure developed within the container is safely below the container's bursting pressure under normal storage and use conditions.

Reducing Agent is a substance that during reactions with oxidizing agents lose electrons. Reducing agents commonly contribute hydrogen to other substances.

Refrigeration Oil is a substance that is used for lubricating refrigerating machinery. Refrigeration oil is usually a mineral oil with all moisture and wax removed.

Rheology Modifier is a substance that is used to alter the rheology of a solid or liquid mixture. In formulations, rheology modifiers are applied to adjust deformation and flow properties, such as fluidity or viscosity in a finished product.

Rodenticide is an ingredient that kills rodents. Rodenticides are regulated by EPA as pesticide active ingredients under FIFRA.

Sealant is a substance that is used to block the passage of fluids, dust, sound, or heat through the surface of materials. Sealants are usually synthetic materials or carnauba waxes. Sealants may be permanent or temporary, some of them possess adhesive qualities.

Sequestrant is a substance that promotes sequestration by forming chelate compounds with metal ions in order to hold metals in solution and to prevent precipitation reactions and metal catalyzed oxidation.

Slip Modifier is a substance that enhances the flow properties of other ingredients. Slip modifiers do not react chemically with the materials to which they are added.

Soap Scum Remover is a substance that is used to remove soap scum by chemical action. Soap scum is a white or gray filmy layer on the surfaces around showers, bathtubs, and sinks.

Softening Agent is a substance that has the capability of imparting softness and pliability to washable textile fabrics.

Soil Release Agent is a substance used to modify the textile or fiber surface so as to render it more hydrophilic and consequently resistant to soiling with oil, grease or fatty type agents.

Solvent is a substance employed to dissolve and maintain in homogenous solution other ingredients in consumer products, and/or to allow the product to solubilize soils on surfaces and facilitate removal. The most common solvent used in consumer products is water. Common organic solvents include hydrocarbons or oxygenated hydrocarbons (alcohols, glycol ethers, glycols, etc.).

Stabilizer is a substance that renders or maintains a solution, mixture, suspension, or state resistant to chemical change.

Surface Coating Agent is a substance used to form thin films on hard surfaces in order to add specific surface properties, such as corrosion, oxidation, electrical, or wear resistance, appearance, optical properties, or thermal protection.

Surface Cooling Agent is a substance that is used to cool surfaces.

Surface Modifier is a substance that may be added to other ingredients to make them more hydrophilic or hydrophobic. Usually, surface modifiers form a covalent bond with the substrate.

Surfactants, also called surface-active agents, are compounds that have the ability to lower the surface tension of water or to reduce the interfacial tension between two immiscible substances. In the HCPA Consumer Product Ingredients Dictionary, surfactants are classified on the basis of their ionic characteristics, as amphoteric, anionic, cationic, or nonionic; and functions, which are subdivided into the following major groups:

- Surfactant - Cleaning Agent
- Surfactant - Conditioning Agent
- Surfactant - Emulsifying Agent
- Surfactant - Foam Booster
- Surfactant - Hydrotrope
- Surfactant - Solubilizing Agent
- Surfactant - Suspending Agent

Surfactant – Amphoteric is a surfactant that has both positive and negative charges in the molecule.

Surfactant – Anionic is a surfactant that has a negative charge in the molecule, and may be in the acid or salt form.

Surfactant – Cationic is a surfactant that has a positive charge in the molecule, and is associated with a negative anion.

Surfactant - Cleaning Agent is a surfactant used for cleaning purposes and as emulsifiers. In this function, surfactants reduce the surface tension of water, wet body surfaces, emulsify or solubilize oils, and suspend soil.

Surfactant - Conditioning Agent is a surfactant used for fabric softening and often to reduce static cling.

Surfactant - Foam Booster is a surfactant that increases the foaming capacity of Surfactants - Cleansing Agents, or to stabilize foams in general. Its action results from increasing the surface viscosity of the liquid which surrounds the individual bubbles in a foam.

Surfactant - Emulsifying Agent is a surfactant that is employed to prepare emulsions (i.e., an oil-miscible liquid suspended in a water-miscible liquid, or *visa versa*). The efficacy of emulsifying agents depends on their ability to reduce surface tension, to form complex films on

the surface of emulsified droplets, and to create a repulsive barrier on emulsified droplets to prevent their coalescence. Emulsions may be oil-in-water or water-in-oil.

Surfactant - Hydrotrope is a surfactant that has the ability to enhance the water solubility of another surfactant.

Surfactant – Nonionic is a surfactant that does not have positive or negative charges anywhere in the molecule.

Surfactant - Solubilizing Agent is a surfactant that aids in the dissolution of an ingredient (solute) in a medium in which it is not otherwise soluble. The process of solubilization generally requires that the solute becomes part of the micelle formed by the surfactant.

Surfactant - Suspending Agent is a substance that is used to help distribute an insoluble solid in a liquid phase. Suspensions or dispersions of liquids in a second liquid are generally called emulsions. The utility of a surfactant as a suspending agent depends on its ability to wet the solid or to modify the solid's surface characteristics by adsorption. *Viscosity-Increasing Agents* generally assist in stabilizing a suspension after it has been formed. in the formation of suspensions.

Suspending Agent – Nonsurfactant is an ingredient which facilitates the dispersion of solids in liquids. Suspending Agent – Nonsurfactants function primarily by coating the solid through the process of adsorption, thus changing the surface characteristic of the suspended solid.

Tablet Disintegrant is a substance that expands and dissolves when wet causing the tablet to break apart and to release the active ingredients.

Thickener is an ingredient used to increase the viscosity of liquids. See also Viscosity Increasing Agent – Aqueous and Viscosity Increasing Agent – Nonaqueous.

Ultraviolet Light Absorber is a substance that protects the product from chemical or physical deterioration induced by ultraviolet light.

Viscosity Controlling Agent is a substance that is used to decrease or increase the viscosity of finished products.

Viscosity Decreasing Agent is a substance that enhances the fluidity of products without significant lowering of the concentration of the active constituents. Its efficacy depends on concentration and is highly specific for each type of product.

Viscosity Increasing Agent - Aqueous is a substance that thickens the aqueous portions of an aqueous mixture and is commonly employed in thickening various types of emulsions. Its action results from its water solubility or hydrophilic nature. See also Thickener.

Viscosity Increasing Agent - Nonaqueous, is a substance that thickens the lipid portions of a nonaqueous mixture and is commonly employed for thickening or gelling oily materials. Its action results from its water insolubility and compatibility with various lipids. See also Thickener.

Water Beading Agent is a substance that protects surfaces against water absorption and makes water beads.

Wax Additive is a substance that changes the characteristics of wax ingredients in consumer specialty products. Wax Additives may be used to make a wax harder or softer, alter its melting point, or change its appearance.

Wetting Agent is a substance that reduces the surface tension of a liquid, causing the liquid to spread across or penetrate more easily the surface of a solid.

Whitener is a substance that increases the whiteness of a formulation or a substrate.

Wick is a component in air care products, whose primary function is to provide capillary action. Examples include candles, oil lamps and air fresheners, where the wick draws liquefied fuel to the flame or liquid for evaporation to fragrance the air. Wick can be a singular or blend of materials. Wicks are usually made of braided, plaited, knitted, or twisted fibers of a variety of materials such as (but not limited to) cotton, paper, or other combustible and non-combustible material. Candle wicks can also include a fine wire such as copper, zinc, or tin, which functions to make the wick more rigid and facilitate head conductance to the candle fuel. Other wick materials may include (but are not limited to) wood, hollow or porous plant materials. Candle wicks may also be pretreated with proprietary mixtures to promote capillary action, prevent clogging, or enhance combustion. In air fresheners, the wick is considered part of the packaging in a consumer specialty product and is therefore not considered an intentional ingredient in the product formulation. Candle wicks that are consumed in the utilization of the consumer specialty products are considered intentionally added ingredients.