

The list of definition of the functions of co-formulants was endorsed by the CG during the CG-45 meeting

Definitions and functions of co-formulants in biocidal products	
Date of agreement: 17 February 2021	Classification: PUBLIC

1. Introduction

It was apparent from the discussions on product authorisations at the Biocidal Product Committee (BPC), BPC working groups and Coordination Group (CG) meetings that Member States, applicants and ECHA have different views on the interpretations of terms used to describe the functions of co-formulants.

(Please note although the Biocidal Products Regulation (BPR) does not define the term “co-formulant”, the following definition shall apply in the context of this document: “A co-formulant is any non-active substance or mixture that is intentionally added to a biocidal product.”)

The members of the CG also called for the development of the definitions of the function of co-formulants since it is a prerequisite for the use of co-formulant grouping approach in the concept of biocidal product family (see CA-July19-Doc.4.2-Final). It should be highlighted that the definitions do not refer to (specific) chemical compounds, but to the function of the compound in a biocidal product. Accordingly, a specific chemical compound may have different functions depending on the specific biocidal product.

This document aims to support the harmonisation of the terms and functions used to specify co-formulants of biocidal products. It should be noted that the list below is not an exhaustive list but can be extended if needed to describe the co-formulants function in the biocidal product.

In case of in situ generated active substances, precursors are regarded as the biocidal product, thus, the term ‘precursor’ is not considered in this document, as precursors are not considered as co-formulants. In cases where a precursor is also acting as a co-formulant, its function as co-formulant should be described by one of the terms listed below.

2. Procedure

The following procedure was followed for preparing this document by the analytical method and physico-chemical properties Working Group (APCP WG):

1. Terms used to describe the functions of co-formulants were extracted from IUCLID dataset submitted for applications for the authorisations of biocidal products (National Authorisations and Union Authorisations) available in 2017.
2. ECHA drafted proposals for definitions for the terms used recurrently by considering the following available sources:
 - The REACH guidance on Annex V Exemptions from the obligation to register
 - The REACH guidance on Information Requirements and Chemical Safety Assessment – Chapter R.12: Use description
 - The European Commission database for information on cosmetic substances and ingredients (CosIng)
 - Regulation (EC) No 1333/2008 of the European Parliament and Council of 16 December 2008 on food additive
 - Commission Regulation (EU) No 284/2013 of 1 March 2013 setting out the data requirements for plant protection products, in accordance with the Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market
3. The first draft document was discussed at the working group meeting for APCP WG III in 2017, which resulted in the grouping of the terms and functions and the completion of missing definitions of the functions/terms.
4. The revised draft document was followed-up by an e-consultation. The received comments/replies were collected and further discussed at the APCP WG meeting IV in 2019.
5. The final discussion, alignment and agreement, which involved accredited stakeholder organisations (ASO), took place at the APCP WG meeting III in 2020.

3. Definitions of the functions of co-formulants

	Function of the co-formulant	Other terms, synonyms, subcategories	Description of the function
1	Absorbent		A substance or mixture used to retain other substances by assimilation.
2	Adhesive	Fixative Glue Adhesion promoters	An adhesive is a substance or mixture, which is applied to a substrate to improve the adhesion of a product to the substrate. The adhesion is created by the formation of strong bonds (including both covalent and non-covalent bonds) between the adhesive and the surfaces of the products to be bound. In addition, some adhesives in a first step chemically react to generate the adhesion properties.
3	Adsorbent		A substance or mixture used to retain other substances by accumulation on their surface; substances or mixtures with a large surface area, which can attract dissolved or finely dispersed

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			substances from another medium.
4	Anti-foaming agent	Anti-foamer De-foamer Foam regulator Foam inhibitor	An anti-foaming agent is a substance or mixture, which is used to prevent or reduce foam formation. It reduces the surface tension of the liquid to the extent that the foam bubbles collapse and thereby destroy the formed foam.
5	Anti-caking agent	Anti-clumping agent Free-flow agent	A substance or mixture that prevents granular or particulate materials from sticking or caking during transfer, storage or use.
6	Anti-freeze agent	Lowering freezing point	A substance or mixture added to a product to lower its freezing point and/or increase stability at low temperatures.
7	Anti-oxidant	Anti-oxidising agent Reducing agent	An anti-oxidant is a substance or mixture capable of slowing down or preventing the unwanted modification of other molecules (substances) caused by oxidation. Anti-oxidants inhibit oxidation reactions by being oxidized themselves or by removing free radicals.
8	Anti-scaling agent	Descaling agent Calcium carbonate-Inhibitor Water softener Anti-lime scale agent	Substance or mixture added to products to prevent inorganic oxide deposits. The formation of scale can be caused by the deposition of salts or minerals. Substance or mixture prevent the build-up or removes lime scale and fouling.
9	Anti-skinning agent	Inhibitor to prevent incrustation	An anti-skinning agent prevents the formation of skin, which is formed due to oxidation and polymerization of other substances in the product at the air interface.
10	Anti-static agent		An anti-static agent reduces static electricity by neutralising electrical charge on a surface.
11	Bait base	Bait Sweetener Feeding stimulant Flavour enhancer Flavouring agent Food attractant Food bait Food ingredient Foraging component Nutrient	A bait base is a substance or mixture used to allure the target organism(s). The bait base makes the biocidal product palatable so that the pest (target organism) eats it, thereby ingesting the active substance. The bait base does not have a biocidal function itself unless specifically identified as such by the applicant. It can be a food bait, which is intended to be eaten or a

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		Sapidity agent Texture modifier Palatable agent Foraging agent	feeding stimulant, which promotes the biocidal product to be eaten.
12	Binder	Binding Binding agent Binding aid Agglomerating agent Dry binder Paint binder Cross-linking agent	A binder is a substance or mixture used to bind different components together or to fix particles on a surface and thereby adding strength to a material.
13	Burning agent	Fuel	A substance or mixture that facilitates the combustion of the biocidal product to release the active substance.
14	Carrier	Support Charge Excipient	A carrier is a (chemically inert) substance or mixture used to allow or facilitate the transport, deliver handling and use of the active substance or biocidal product.
15	Coagulants and flocculants		A coagulant is a chemical substance or mixture used to facilitate the molecular aggregation of substances present in a solution into particles. A flocculant is a chemical substance used to promote the aggregation of suspended particles present in a liquid into a macroscopic mass called floc.
16	Coalescing agent		Substance or mixture that decreases the minimum film-forming temperature (MFT) and, upon evaporation, yield a hard film.
17	Coating agent	Water-repellent agent Repel agent Release agent	A coating agent generates a protective layer on a solid substrate.
18	Colouring agent	Colorant Dye Colour Matting agent Optical brightener Pigment	A colouring agent is used for inducing a change of colour in a product. Examples of colouring agents are dyes or pigments.
19	Complexing agent	Chelating agents Sequestrant Chelator Sequestering agent	The complexing agents form a complex with unwanted compounds, e.g. metal-ions, of the biocidal product. The formation of the complex can contribute to the e.g. stabilisation of the active substance.
20	Corrosion inhibitor	Corrosion agent	A corrosion inhibitor is a substance or mixture that stops or slows down

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			corrosion of metals and alloys. It can be distinguished between anodic and cathodic inhibitors depending on which reaction should be inhibited.
21	Desiccant	Dewatering agent Drier Siccative	A desiccant is a hygroscopic substance or mixture that functions as a drying agent, i.e. it withdraws moisture from other materials. It can retain water through capillarity or adsorption or by reacting chemically. Desiccants are used to dry solvents, gases and solids and lose their function as their water retention increases. Silica gel and molecular sieves are examples of commonly used desiccants.
22	Deterrent	Bittering agent Acerbic substance Aversive agent Denaturant Embittering agent Human aversive agent Taste aversive agent	A deterrent is a substance or mixture that renders biocidal product unpalatable to non-target organisms, in general and particular to humans.
23	Dispersant	Dispersing aid Dispersive agent	A dispersant is a substance or mixture that can promote the formation of a dispersion or stabilize the dispersion. The term dispersion is applied to a system of several phases in which one is continuous and at least one other is finely distributed. If two or more phases that are insoluble or only slightly soluble are finely distributed in one another, the term disperse system or, more simply, dispersion is used.
24	Emetic agent		A substance or mixture added to a product that induces vomiting when the biocidal product is swallowed by non-targeted organisms, in general, and particularly by humans.
25	Emollient	Moisturiser Moisturisation Skin care Skin conditioner Skin protection Smoothing agent	An emollient increases the water content of the skin and helps keep it soft and smooth.
26	Emulsifier		An emulsifier is a substance or mixture, which makes it possible to form or maintain a homogenous mixture of two or more immiscible phases such as oil

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			and water.
27	Encapsulating agent		An encapsulating agent is a substance or mixture that encloses the active substance and/or co-formulants in capsules formulated in the biocidal product.
28	Filler	Filler, inert Inert bulk material Lightweight Filler	A filler is an inert solid material used as a diluent.
29	Film forming agent	Film forming polymer	Any substance or mixture that aids formation of a thin continuous layer on a substrate. This layer acts as a barrier between the environment and the substrate.
30	Flame retardant	Fire retardant	A flame retardant is a substance or mixture that prevents the ignition of material or slows down the spreading of fire by physical and chemical measures.
31	Foaming agent		A substance or mixture, which makes it possible to form a homogenous dispersion of a gaseous phase in a liquid product.
32	Gassing agent		A substance or mixture that produces directly or initiates the formation of gas.
33	Humectant		Humectant is a substance or mixture that is used to retard moisture loss from the product during use. This function is generally performed by hygroscopic materials. The effectiveness of humectants depends largely on the ambient relative humidity.
34	Lubricant		A lubricant provides a protective thin film, which allows two surfaces to be separated while performing certain functionality by reducing the friction between them, improving efficiency and reducing wear.
35	Odorant	Perfume Fragrance Deodorant Essential oil Scent	An odorant is a substance or mixture used to introduce or control odours.
36	Opacifier		Substance or mixture that renders solutions opaque; reduces transparency or the ability of light to pass through solution; added to the

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			biocidal product to reduce their clear or transparent appearance.
37	Packaging gases		Gases other than air, introduced into a container before, during or after the placing of the biocidal product in that container.
38	Penetrating agent		A substance or mixture that facilitates the penetration of the active substance into/onto the material to be treated.
39	pH Regulator	Acidity regulators pH Adjuster pH Modifier pH Neutralisers Buffer Buffering agent pH Stabiliser pH Buffer Neutralising agent	A pH regulator is a substance or mixture used to adjust or keep the pH-value of a biocidal product, generally an aqueous solution, to the favoured pH-level or within a specified range. The regulating mechanism is based on acido-basic reaction between the pH regulator and the liquid to be treated.
40	Phlegmatising agent	Reactivity reducer	A phlegmatising agent is a substance or mixture that stabilizes or desensitizes the reactivity of a substance or biocidal product with regard to explosive properties.
41	Plasticiser		A plasticiser is a substance or mixture that increases flexibility, workability and elasticity of materials used in the biocidal product.
42	Precipitation inhibitor		A precipitation inhibitor is a substance or mixture that prevents unwanted formation of solids in solution.
43	Preservatives	Food preservative	A preservative is a substance or mixture, which protects against deterioration caused by microorganisms that could affect the product quality and performance.
44	Propellant	Gas propellant	A propellant is a gas other than air, which expels a biocidal product from a container.
45	Protein remover		A protein remover is a substance or mixture (e.g. enzymes), which intends to remove proteins during use of the biocidal product, e.g. in laundry treatment.
46	Re-fatting agent	Re-greasing agent	A re-fatting agent replenishes the lipids of the top layers of the skin.
47	Rheological additive	Flow agent Flow modifier Flow regulator	A rheological additive is a substance or mixture that is used to control the flow of liquids.

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		Fluidising aid Hydrophilic rheology modifier Rheology modifier	
48	Solubilising agent	Solubiliser Solubilisation Co-solvent	A solubilising agent is a substance or mixture that facilitates the dissolution of a substance in a solvent.
49	Solvent	Base oil Diluent	A solvent is a substance or mixture, which is used to dissolve a solid, liquid or gaseous substance (solute), forming a solution.
50	Stabiliser	Stabilising agent Stabilising	A stabiliser is a substance or mixture which, when added, prevents unwanted physical or chemical changes of other substance(s) and preserve its/their stability. While the stabiliser may react with other molecules in a product, it never reacts with the active substance or is used in the reaction of the generation of an active substance. Substances or substance-systems, which generate/release the active substance in a biocidal product for keeping the concentration stable, are not regarded as stabilisers. Note: In cases where specific stabilising functions are known, e.g. anti-oxidant or UV-stabiliser, the specific term should be used.
51	Surfactants	Cleaning agent Detergent Wetting agent Solubilisation Non-ionic surfactant Tenside Anionic surfactant Cationic surfactant Amphoteric surfactant	A surfactant is a substance or mixture that reduces the surface tension of biocidal products and may aid the distribution of the product when used. Surfactants also keep removed material in solution or suspension.
52	Suspending agent		A suspending agent is a substance or mixture that facilitates the generation or stabilisation of a heterogeneous mixture of a liquid and (a) solid(s) that is/are finely dispersed in that liquid.
53	Synergist	Booster Enhancer	A synergist is a substance or mixture that enhances the effect of the active substance in a biocidal product.
54	Viscosity modifier	Film thickener Gelling agent	A viscosity modifier is a substance or mixture applied to a biocidal product to

	Function of the co-formulant	Other terms, synonyms, subcategories	Description of the function
		Viscosity controlling Thickener	control the flow of a liquid by changing its viscosity.
55	UV Stabiliser	Light stabiliser UV absorber UV filter UV protection Resistance to ultraviolet light	An UV stabiliser is a substance or mixture that protects the biocidal product from the (unfavourable) effects of UV light.

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