



Representing the Plant Science Industry

# Technical Technical Monograph n°19 Monograph

Minor Changes of  
Formulants contained  
in Formulations  
(Crop Protection Products)

**Edition: June 2007**







**Minor Changes of Formulants contained in  
Formulations (Crop Protection Products).**

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## 1. Preamble

**This revised Technical Monograph n°19 (TM19) refers only to Minor Changes of Formulants contained in Formulations (Crop Protection Products). Only information from the company (Registrant), which was granted the original regulatory approval, is relevant in this context and only the Registrant is entitled to change his formulation using this procedure.**

This document does *not* refer to changes regarding active ingredients contained in a Formulation or to the comparison of information originating from different Registrants. Changes regarding an active ingredient are described, for example, in the current version of FAO/WHO Manual (e.g. section 3.2: Minimum data requirements for extension of an existing specification to an additional manufacturer or a new manufacturing process [1]) or respective sections of a future revised version of the FAO/WHO Manual.

## 2. Reasons for revision of TM19

The previous version of the CropLife International Technical Monograph n°19 (TM19) was published in June 2001. The Crop Protection Industry recognizes that, at present, a globally harmonized regulatory approach for Minor Changes of Formulations does not exist. Furthermore, market situations with respect to the demand for reasonably prized products have changed significantly. There is an increased need for more flexibility in manufacture. Registration standards continue to rise. The revision of TM19 is designed to reflect these needs and current (published or unpublished) regulators practice. The new focus on Minor Changes of Formulants contained in Formulations is reflected in the modified title of this revised Monograph.

The information contained in this monograph is accurate to the best of the knowledge of CropLife International, but no liability can be accepted whatsoever in respect of the use of this information nor in respect of any advice contained therein.

## 3. Objective

Changes in the composition of a registered Formulation may be necessary for a number of reasons. **This revised TM19 focuses on “Minor Changes” as changes of Formulants and/or of their concentrations.** No other changes are covered. Comparison of information relevant for getting approval for the changes via the ‘Minor Change Procedure’ **shall be considered only for information of the company (Registrant), which was granted the original regulatory approval and is therefore the only person/entity entitled to change this formulation.** The objective of the procedure is to facilitate an accelerated regulatory approval process via the “Minor Changes procedure” by adhering as close as possible to the currently registered recipe, to its hazard classification and its use after the change.

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## 4. Reasons for Minor Changes of Formulants contained in Formulations

### 4.1 Changes during Production

Changes during the production of Formulations can lead to unpredictable changes in the physico-chemical properties of the Formulation. As a consequence, minor changes in the physico-chemical properties can occur, which require slight changes in the composition of the formulation (e.g. slight increase or decrease of a thickening agent).

### 4.2 Replacement of a Formulant

As new information on chemicals is generated, a Formulant used in the production of a current Formulation may no longer be desirable or considered acceptable (e.g. with respect to its toxicological or ecotoxicological profile/classification and/or due to new regulations such as REACH in the European Union [2]). Therefore, such a Formulant needs to be replaced with a less hazardous one, but with the same or similar functional properties.

### 4.3 Shortage/unavailability of a Formulant

Shortages/unavailability may be caused by failure in supply due to events like interruption of production, lack of raw material availability at the Formulant supplier or discontinued supply as a consequence of new regulatory requirements for Formulants (e.g. REACH in the European Union).

### 4.4 Change in performance of a Formulant

Performance changes may be caused by changes in the production process of the Formulant supplier.

### 4.5 Change in product performance or application requirements

There may be demand for improved product in the market (e.g. better foam depression, less dust, improved flowability, better pourability and improved compatibility in tank mixtures with new products). New or modified application practices and/or application equipment may require changes to the application properties of the product.

## 5. Definition of "Minor Change"

A "**Minor Change**" of Formulants contained in a Formulation is a change in the composition (recipe), compared to an originally registered Formulation of the same Registrant (= point of reference),

- (a) which is registered based on a data package as required by national authorities at the time of submission,
- (b) where the information for the comparison (old and new Formulation) can only be supplied by the same Registrant,
- (c) where the changes do not indicate any unacceptable adverse effects *and*
- (d) where the changes in identity and quantities of Formulants in the Formulation are within defined ranges.

More details are given in section 6 below.

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## 6. Requirements for accepting Minor Changes of Formulants contained in Formulation

Acceptance of a change of Formulants contained in a Formulation as 'Minor Change' requires the following:

### 6.1 General requirements

- (a) The Formulation is intended for the same use as the existing Formulation *and*
- (b) the type of Formulation is unchanged, *and*
- (c) the classification of the Formulation is the same or less hazardous as for the existing Formulation and as described, for example, by the R sentences in the SDS, *and*
- (d) the environmental and biological properties of the Formulation remain unchanged or are improved, *and*
- (e) the level of efficacy of the Formulation is maintained, *and*
- (f) the technical performance of the changed Formulation is not influenced negatively, *and*
- (g) to avoid new residue studies the method of application is not changed, *and*
- (h) the dose, concentration and frequency of application remains the same.

### 6.2 Requirements for Changes of Formulants

- (a) The changed or substituted Formulant must have the same purpose/function (e.g. carrier, surfactant, etc.) in the Formulation as the existing one.
- (b) The changed or substituted Formulant (see glossary: Alternative Material) must belong to the same chemical class *or* must have a similar identity.

If the changed or substituted Formulant is an approved food additive or, for example, listed by EPA on list 4a/4b

→ (ref:<http://www.epa.gov/opprd001/inerts/lists.html>)

or already approved in other existing Formulations the Minor Change procedure should be followed.

In the exceptional case of the proposed use of a non-Alternative Material Formulant (other than an already approved additive/inert), a written declaration has to be provided to the registration authorities, stating

- that the Minor Changes will not have any adverse effects on the physical/chemical, toxicological and ecotoxicological properties, and
- that the Minor Changes will not have any negative influence on the use/application of the Formulation(s), and
- that the Shelf Life specification, intended uses, type of Formulation and method of application remain unchanged.

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- (c) The value given in the recipe for each Formulant is not changed by more than  $\pm 25$  % (relative), or by more than  $\pm 2.5$  % (absolute), whichever is the bigger.

In case of a modification of the registered recipe by a change of contents of Formulants by more than  $\pm 25\%$  (relative) or  $\pm 2.5$  % (absolute) the Minor Change procedure can still be followed. In this case a written declaration has to be provided to the registration authorities, stating

- that the Minor Changes will not have any adverse effects on the physical/chemical, toxicological and ecotoxicological properties, and
- that the Minor Changes will not have any negative influence on the use/application of the Formulation(s), and
- that the Shelf Life specification, intended uses, type of Formulation and method of application remain unchanged.

## 7. Information to be submitted

The 'Minor Change Procedure' applies only to comparing information of and granting approval to the same Registrant (*intra*-company approach) and not to that of different Registrants (*inter*-company approach). For 'Minor Change Procedure, the following information shall be submitted by the relevant Registrant:

- (a) The reasons for the change,
- (b) a description of the change,
- (c) the composition of the registered and new Formulation,
- (d) a written declaration, stating
  - that the Minor Changes will not have any adverse effects on the physical/chemical, toxicological and ecotoxicological properties, and
  - that the Minor Changes will not have any negative influence on the use/application of the Formulation(s), and
  - that the Shelf Life specification, intended uses, type of Formulation and method of application remain unchanged.
- (e) the set of SDS (safety data sheets) of the Formulants from the old and the new recipe together with the old and new SDS of the Formulation,
- (f) the hazard classification,
- (g) if applicable/relevant, it should be confirmed that the existing and validated analytical method is still useable for the determination of the active ingredient in the changed Formulation.

## 8. Accelerated approval process

Because it is *not* expected that "Minor Changes" as defined in this document will have any adverse effects on the properties and uses of the Formulation(s), an accelerated approval process should apply.

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Many Minor Changes result from changes in legislation and requests received directly from authorities, for example to replace Formulants. These changes should also qualify for the same accelerated process.

Changes requested by industry (e.g. due to supply or sourcing difficulties) should also be considered under the same accelerated “Minor Change procedure”, if the requirements as defined in this document are fulfilled.

The company (Registrant), which was granted the regulatory approval and is therefore the only person who is entitled to change his formulation via this Minor Change Procedure, should make it clear in its submission to the Regulatory Authorities, that an accelerated approval process is being sought - the so called "Minor Change Procedure". Having done this and complied with the conditions for the “Minor Change Procedure”, it is reasonable to expect that Regulatory Authorities will make every effort to prepare an appropriate response to the Registrant within a defined period of time (in the order of 45 days maximum).

## 9. Conclusion

The situation in most of the Crop Protection Product markets has changed significantly in respect of the demands for reasonably priced products, rising regulatory standards and increase need for flexibility in manufacture. This revised TM19 is published to reflect these changes, give clearer definitions and align it with the common practice. It deals only with “*Minor Changes*” in form of changes of Formulants and/or of their concentrations, which have no adverse effects on human health and the environment and can therefore be progressed by the “Minor Change procedure”, defined in this document, and using an accelerated approval process.

## 10. Glossary

### (a) Alternative Producer of Formulants

Sometimes Formulants, single or blend of chemicals can be used interchangeably in Formulations and are included in the Formulation recipe as “*Alternative Producer of Formulant*”. These Formulants are supplied from different suppliers, identified with different product names/trade marks, and are called ‘*Alternative Producers of Formulant*’ as long as the chemical composition/specifications of the respective Formulants provided by the respective suppliers comply with the definition of an Alternative Material (see 10.b below).

### (b) Alternative Material for Formulants

Sometimes Formulants, single or blend of chemicals can be used interchangeably in Formulations and are included in the recipe as “*Alternative Material*”. These Alternative Materials (Formulants) are supplied from same or different suppliers, identified with different product names/trade marks, and are called “Alternative Materials” (Formulants) if they meet the following criteria:

- Same technical performance (for properties and application of the Formulation)

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- Same Chemical Class or Similar Identity (see also para 11.j and 11.l). Slightly different chemicals having same or different CAS numbers should also be seen as Alternative Materials. (see also para. 11.c)
  - Same qualitative risk (pathway of exposure like eye irritation, skin irritation, skin sensitization, acute oral, acute inhalation).
- (c) **CAS Registry Numbers (CAS RN):** Is a unique numerical identifier created and assigned to a chemical substance by Chemical Abstract Service (CAS). It has no chemical significance. CAS numbers are also allocated to trade marks on request of companies. In addition and applying, in particular, in the polymer area, a CAS number may be allocated to a product by description of the raw materials leading to the final polymer or by description of the final polymer structure. Therefore, identical CAS numbers indicate chemical equivalence, but two Formulants having different CAS number may nevertheless have the same chemical structure.
- (d) **Formulant:** Formulant is also known as 'inert' or 'co-formulant'.
- (e) **Formulation:** Formulation is also known as 'Preparation' or 'Crop Protection Product' or 'Plant Protection Product'.
- (f) **Function** (non-exhaustive list)
- Active substance
  - Antifoaming agent
  - Buffer
  - Carrier
  - Diluent
  - Dye
  - Filler
  - Fragrance
  - Preservative agent
  - Solvent
  - Surfactant
  - Thickener
- (g) **Registrant:** In line with common regulatory language, the Registrant (sometimes also called 'Manufacturer') is the company (Registrant) which was granted the regulatory approval and is therefore the only person/entity who is entitled to change his product formulation via this Minor Change Procedure. It is the company which has the knowledge of the manufacturing procedure, compositions and recipe even if this company is not the Producer (see 10.i).
- (h) **Minor Change:** A change in composition of a product that meets the criteria as defined in Section 5 of this Technical Monograph, and which therefore should be eligible for accelerated regulatory approval as outlined in Section 8 of the Monograph.
- (i) **Producer:** In this document and in line with common regulatory language, Producer is the company which is actually manufacturing the Formulation.

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(j) **Same Chemical Class** (examples):

- Polymeric chemicals with slightly different ethoxylated / propoxylated chain length
- Sodium/Calcium Lignosulphonates
- Propylene glycol vs. ethylene glycol


(k) **Shelf Life Specification:** The Shelf Life Specification corresponds to a product specification where the Shelf Life is specified. Shelf Life is the period in which the active ingredient content in the Formulation does not decrease by more than 5% relatively (see FAO/WHO Manual; paragraph 4.6.2) [1]. In that case, the content is still within the specification and the Formulation is regarded as stable.

(l) **Similar Identity:** Substances from the same basic chemical family that differ in very minor or inconsequential ways, e.g.: hydrates or solvates of a parent ingredient, homologs differing only slightly in chain length of aliphatic substituents, etc. (examples):

- Citric acid vs. citric acid hydrate
- Aromatic solvents (e.g. different types of "Solvesso")
- Aliphatic solvents (e.g., octane vs. decane)

## 11. References

- [1] Manual on development and use of FAO and WHO specifications for pesticides  
March 2006 revision of the First Edition, prepared by the FAO/WHO Joint Meeting on Pesticide Specifications (JMPS)  
Available only on the internet:  
→ <http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/Pesticid/Specs/manual.htm>
- [2] EU White paper 2001; Strategy for a Future Chemicals Policy  
COMMISSION OF THE EUROPEAN COMMUNITIES  
Brussels, 27.2.2001  
COM(2001) 88 final  
→ [europa.eu.int/eur-lex/en/com/wpr/2001/com2001\\_0088en01.pdf](http://europa.eu.int/eur-lex/en/com/wpr/2001/com2001_0088en01.pdf)



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