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How to make instructions for the use of slimicides

Written instructions for the use of slimicides are essential to ensure the proper and safe use of these products. The instructions for use are primarily addressed to the actual users of the product and thus instructions should be, like the Safety Data Sheet (SDS), submitted with the product to the workers. Good instructions for use should be clear, illustrative and exhaustive. They should be written in Finnish and/or in Swedish depending on the language of the customers and users.

Detailed content of the instructions for use are given in Finnish chemical regulations. According to these regulations, instructions for use should not only be a technical guide, but they should also contain other information. Instructions for use do not replace the SDS or the label of the chemical, despite of the detailed information required.

According to the Decree on Slimicides and Wood Preservatives (123/1994) 2 §, a proposal for instructions for use (in Finnish or in Swedish) has to be enclosed in every application for approval. The proposal is prepared by the applicant. When Finnish Safety and Chemicals Agency (Tukes) approves the chemical, it also confirms the instructions for use. However, all responsibility for the reliability and relevance of the information given in the instructions remains to the applicant.

According to the Decision of the Ministry of the Environment, (256/1994) 4 §, the following information has to be included in the proposal for the instructions:

- 1) Intended use
- 2) Restrictions for use
- 3) Labelling
- 4) Summary of health and environmental effects of the product
- 5) Technical instructions for use
- 6) Safety precautions for workers during the different stages of the handling
- 7) Instructions for environmental protection
- 8) First aid instructions
- 9) Instructions in the case of accidents
- 10) Instructions for safe disposal

The order of the topics is not binding. Corresponding data can also be presented in other ways. It is also possible to include supplementary information in the instructions (e.g. data on technical properties, package sizes).

This guidance lists the information which is needed in the instructions for use. There are also instructions on how to avoid unnecessary overlap with the SDS. The general rule is that the

instructions for use can refer to information given in the SDS (e.g. "See SDS item 12."). In this case, however, the SDS should be attached to the instructions. The instructions should be as easy to read as possible.

A separate guidance by Tukes (September 30, 2015) lists the application and documentation requirements for advance approval of slimicides.

The instructions for use should contain the following information:

1) Intended use

- The intended use as approved by Tukes.
- The period for the approval or a remark that the approval is given for an indefinite period.
- Description of the manner of use and any restrictions for use, which may apply. It should also be stated that *the use of the chemical for other purposes or contrary to the given instructions is forbidden*.
- Possibly information concerning the biological efficacy of the product.

2) Restrictions for use

- Information concerning any negative effects which may be produced on mixing the chemical with other substances or on the contrary. If the product is recommended to be used with other substances, this should be mentioned.

Other possible restrictions, e.g.:

- Suitability for use only within a certain pH-range,
- Suitability for use together with dispersing agents,
- Recommendations concerning the prevention of microbial resistance by e.g. avoiding the continuous use of the product.

3) Labelling of the product

- The names and concentrations of the active substances,
- names of other dangerous substances affecting the classification of the product,
- hazard pictograms, signal words, hazard and precautionary statements,
- the name and the contact information of the company responsible for the placing the product for the Finnish market.

This information may be given by attaching a clear picture of the label itself.

4) Summary of the health and environmental effects of the product

Summaries must be based on scientific studies. The detailed results of the studies should be given in the SDS, and thus they do not have to be repeated in the instructions but they can be referred to.

Health effects:

Short description of the health effects of the product and its active substances and possibly also of any other dangerous substances involved. The following information should be included to the summary:

- acute effects (oral, dermal and inhalation toxicity),
- irritation,
- corrosion,
- sensitizing properties,
- possible effects of long-term or repeated exposure (carcinogenicity, genotoxicity and effects on reproduction).

The summary for a certain substance may be written in the following way:

"The acute oral toxicity of the substance is moderate. Its acute toxicity via the respiratory tract is also moderate. The dermal toxicity is slight. The substance irritates the eyes strongly and may also cause skin irritation. The substance may produce sensitization and allergic symptoms of the skin. The effects of repeated exposure will probably be concentrated in the liver and kidneys. The substance has not been observed to be mutagenic or genotoxic. It has no documented carcinogenic or teratogenic effects or harmful effects on reproduction."

Environmental effects:

Short description on the environmental fate and effects of the active substances and other possible substances in the product. The following information should be included in the summary:

- mobility (evaporation, mobility in soil, adsorption to the sediment),
- degradability (biological and abiotic e.g. hydrolytic degradability),
- bioaccumulation and
- toxicity to aquatic and other organisms.

The summary of a certain substance may be written in the following way:

"The active substance evaporates easily. It is only slightly water soluble and it will not leach significantly in soil. The substance adsorbs strongly to particles in an aquatic environment. The substance is not readily biodegradable, and it is also hydrolytically stable. The substance will presumably not bioaccumulate. Its acute toxicity to water organisms varies from very toxic (to algae) to mildly toxic (to fish). The substance is moderately toxic to Daphnia following long-term exposure."

5) Technical instructions for use

- Storage instructions;
- Instructions on application techniques and dosage, duration of the application, possible dilution and concentration of the chemical in different uses;
- Instructions on what information should be given to the buyer of the treated material (e.g. paper) by the user of the product.
- The number of applications, possible reapplications or continuous application;
- Dosage during disturbances of the process;
- Recommended use period to prevent the formation of resistant microbe strains.

6) Safety precautions for workers during different stages of handling

- Safety precautions when handling the product or the material treated with it; precaution measures (e.g. ventilation) during service and maintenance;
- Personal protective equipment for different stages of the work; the type and the material of the protective equipment (e.g. protective clothing, gloves, respiratory equipment);
- Safety precautions for the emptying of tankers or packages;
- If the product is classified as belonging to the VAK-transport class 6.1 (Toxic substances), the driver must have a special licence;
- Instructions for the labelling of the packages, tanks and equipment.

For further details the SDS item 8 can be referred to.

7) Instructions for environmental protection

- Instructions of how to prevent the release of the product to the soil, air or to an aquatic environment during transportation, storage and use of the product;
- Instructions for the pre-treatment of waste waters before they are taken to biological waste water treatment plants (normal and exceptional situations);
- Instructions for the monitoring methods by which the possible emissions to soil, ground water, or surface waters can be detected;
- Information concerning the user's notification obligation to the regional environment authorities; the notification must be made if the plant begins to use new chemicals or otherwise changes the process significantly.
- Special instructions for the possible pre-treatment of the waste water after shock applications;
- Necessary retardation in the waste water treatment plant to ensure sufficient degradation of the slimicide.

8) First aid instructions

- Instructions especially concerning precautionary measures at places of work (e.g. eye showers and other necessary first aid equipment);

- First aid instructions for different emergency situations (e.g. splashing into the eyes and on the skin) and in cases of poisoning;
- Treatment of contaminated clothes;
- Possible antidote and other instructions for cases of poisoning;

For further details the SDS item 4 may be referred to.

9) Instructions in the case of accidents

- Emergency measures in the case of spillage, fire and other kinds of accidents, in the case of mishandling or malfunctions during the different stages of the handling and use of the chemical;
- Nature of combustible gases in case of fire;
- Obligation to inform local authorities about accidents;

For further details concerning fire point 5 in the SDS may be referred to.

10) Instructions for waste handling

- Methods for recycling or other kind of treatment for different wastes (product waste, waste generated during the application and from fires or other accidents, waste from the treated material, empty packages);
- If some waste is regarded to be hazardous waste, it must be mentioned;
- Obligation to apply for a new environment permit in cases of significant changes in waste generation or waste treatment;
- If the generated product should be burned, the recommended conditions for burning (e.g. temperature and retardation) must be stated together with purification methods for air emissions and other information necessary for the safe burning of the waste.
- Possibilities and instructions for the burning of pulp waste containing the slimicide.

The instructions for use should also contain information concerning the approval and the confirmation of the instructions:

"The Finnish Safety and Chemicals Agency has confirmed these instructions for use dd.mm.201x. (reference nr)."