

# The Globally Harmonised System in context in the potato industry

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The Food and Agricultural Organization (FAO) of the United Nations has been pushing for unification (harmonisation) of the classification and labelling of chemicals so that all chemicals have global hazard classifications matched by labels that leave no room for the 'ifs' and 'buts' regarding chemicals.

That means if a pesticide, for example, is classified as acutely toxic in France and has a corresponding label, that pesticide must have the same hazard classification and corresponding label in South Africa. Over the past 40 years or so it has been the prerogative of nations to have their own hazard classification and corresponding labels of which the classification was loosely based on the World Health Organization's (WHO) human toxicity classification of chemicals.

The latter resulted in a plethora of hazard classifications and labels that are extremely confusing. An example of this in South Africa is paraquat of which some product labels indicate the hazard classification as TOXIC while others have HARMFUL as their hazard classification.

The Department of Employment and Labour (DEL) promulgated *Regulation R280 of 29 March 2021 for Hazardous Chemical Agents* with an amended *Regulation R682 of 29 April 2022* in time for the *Occupational Health and Safety Act, 1993 (Act 85 of 1993)* to compel all manufacturers of hazardous chemicals to re-classify and label their products according to the regulations which encompass all the elements of the Globally Harmonised System (GHS) requirements. The final deadline for compliance with the

regulation is 30 September 2023. That means that all pesticides going to market from 1 October 2023 must be re-classified and labelled with the new label formats and safety data sheets (SDSs) as dictated by the regulations. Potato producers must avail themselves of the new label formats because they are vastly different from what was used up until now for pesticide labels.

## GHS versus WHO classification

The WHO classification system is based on human toxicity (hazards) and does not include hazards for the environment or anything else. It also mostly focusses on the active ingredient's human toxicological profile, although some pesticide producers have human toxicological profiles for their pesticides based on their formulation toxicity.

The GHS hazard classification considers all ingredients, including the active ingredients, solvents, emulsifying agents, stabilisers, anti-foaming agents, phase transfer reagents, etc. in the hazard classification for human health, environmental health and the physical environment. For example, some substances such as glyphosate may carry a hazard warning for metal surfaces and others may carry a hazard statement for flammability.

All of the toxicological and physical chemistry data are included in calculating the hazard level of the formulated pesticide products using a complex equation (not for the faint hearted). Once that calculation is completed, the originator compiles a new safety data sheet (SDS) and after that, drafts the new GHS format label.

Job done on their part, right? No. They have an obligation in terms of

the regulations mentioned earlier to inform the user (potato producer) of the hazards of the pesticides, meaning to explain what the new label means, what the hazard symbols mean, explain what the precautionary statements mean and inform the producer regarding the end-of-life cycle management of the packaging and any leftover materials. That task is normally devolved to the crop adviser who sells the pesticides to the potato grower.

## GHS hazard symbols and statements

The most visual part of the new GHS format label is the set of hazard symbols accompanied by so-called signal words (words that describe the hazard of the pesticide formulation).

Take note that these symbols and signal words address only the hazards of pesticides, not the risks. Risk arises when a person handles or uses the pesticide and, while hazard is an intrinsic characteristic of a pesticide that cannot be mitigated unless the formulation is changed significantly, risk can be easily mitigated if the correct precautionary measures are deployed. The new GHS format labels must include precautionary statements such as the type of protective clothing that must be worn, keeping products under lock and key, preventing contamination of water bodies, etc.

## WHO colour bands replaced

Many people have noticed the absence of well-known colour bands and pictograms on the new GHS format labels. In reality, the colour bands have been replaced by the hazard signals that are universal in nature because they are the same for a product all over the world.

The pictograms have been replaced by the precautionary statements. It therefore requires all potato growers to take a fresh look at pesticide labels to acquaint themselves with the hazards and precautions in order to apply the pesticides safely.

**Regulation add-ons**

The DEL also built worker safety and risk mitigation into the regulations. Gone are the days of not issuing spray operators and pesticide store managers with personal protective equipment and clothing. Pesticides are intrinsically hazardous and may cause harm to the person if the precautions are not adhered to. If the label of very toxic pesticide issues a precaution that the person handling

or applying such a product must wear a respirator, then that is compulsory by law.

It means the employer (potato producer) must issue the employee (spray operator) with a respirator mask and the spray operator shall wear it when applying the pesticide. In short, there are thus two sides to the coin, one for the producer and one for the spray operator.

**Should producers be concerned?**

In truth, the hazards of pesticides do not change; the GHS simply makes it much clearer and broader than what we were used to. Now we know that some products may cause damage to an unborn child, for example, or may cause severe respiratory tract irritation. It is no reason to shy away

from pesticides. All we need to do is to really start implementing the precautionary measures when working with pesticides.

If a product such as methamidophos is used in potato production, it requires quite a solid set of personal protective equipment to be worn by workers who handle and apply the product. If all the precautions are taken seriously, the risk is mitigated down to virtually nil. But allowing farm workers to spray methamidophos without full body cover and a respirator is simply putting the person at huge risk.

**Information on GHS labels**

CropLife SA's Agri-Intel database will start displaying GHS format labels probably during the fourth quarter of 2023, while many of the registration holders already supply their products with GHS format labels. The website of these registration holders also displays the GHS format labels and SDSs.

Some registration holders currently sell the products with the older WHO format labels and the new GHS format labels. Your CropLife SA accredited crop adviser should be able to provide guidance on the interpretation of the new GHS format label.

**Pesticide safety is vital**


CropLife SA calls on all potato producers to acquaint themselves with the new GHS format labels. Request the crop adviser from whom you buy your inputs to offer training to yourself and your farm workers on responsible handling and use, including interpretation of the new GHS format hazard symbols, hazard signal words and precautionary statements. They have a duty to do it in terms of the regulations and, as we say at CropLife SA: It is the right thing to do. 

Figure 1: Hazard symbols with their corresponding signal words.



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