

What is GHS and should you care?

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GHS is short for *Globally Harmonized System of Classification and Labelling of Chemicals* and the short answer is yes, you should care, but let's elaborate on why. Note that although GHS affects chemical agents in various industries, this article focusses on those applicable to the crop protection industry.

The need for GHS arose because of the global trade of chemicals, which often cross boundaries into areas with varying languages and levels of literacy. As a way to overcome this challenge and ensure the ultimate safety of those who use these chemicals, implementation of the GHS was encouraged at the World Summit on Sustainable Development in Johannesburg back in September of 2002. In South Africa, GHS became a legal requirement as from September 2022 and is stipulated as a requirement in terms of The Regulations for Hazardous Chemical Agents No. R280 of 29 March 2021. This means that from now on, the labels and safety data sheets of crop protection products need to follow a standardised approach in communicating the hazards of the chemical. Bear in mind that there is a transition period for chemicals that were already imported or manufactured prior to this date.

For farmers and farmworkers involved in the application of crop protection products, this is particularly important because a major aim of the GHS is to communicate the hazards

associated with a particular chemical in a standardised way. These hazards, their nature and severity, are communicated through a few elements, such as hazards statements, pictograms and signal words on both the label and the safety data sheet of the product. First, let's have a look at the classification criteria of these hazards. According to the GHS, the nature of a hazard is allocated according to a hazard class. Currently there are 29 hazard classes, of which 17 are physical hazard classes, such as oxidizing liquids, 10 are health hazard classes such as skin corrosion/irritation, and two are environmental hazard classes, namely hazardous to the aquatic environment or hazardous to the ozone layer. These classes belong to a hazard group or type, depicted by a pictogram.

Within these classes, the severity of the hazard is then allocated in terms of a hazard category expressed as a number, for instance category 1 would be the most severe. Some of these categories are further sub-divided into divisions, which are expressed as a letter, i.e. A, B, C and so forth.

The GHS also uses hazard statements, pictograms, and signal words to communicate the hazard of the chemical, as well as precautionary statements to mitigate any potential risk. Hazard statements are phrases that describe the hazard/s as determined by the hazard classification. They start with the letter H followed by three numbers.

For physical hazards, the statement will start with H2 (followed by two additional numbers), health hazards start with H3 and environmental hazards with H4, for example *H319: Causes serious eye irritation*. These hazard statements appear both on the label as well as the safety data sheet and are associated with specific pictograms. As mentioned, pictograms are used to depict nine different chemical hazard types, illustrated in figure 1 below.

According to the GHS, a signal word should appear on the label of which there are only two, *Danger* which indicates the more severe hazard, or *Warning* indicating a less severe

hazard. Only one signal word should appear on the label.

Finally, precautionary statements are used to explain how to handle these substances, as well as which precautions to take to ensure any risk associated with handling the product is mitigated. The precautionary statements are preceded by the letter P and three numbers that are also categorised according to type, similar to the hazard statements. For instance, general statements will start with P1 followed by two numbers, prevention statements with P2, response statements P3, storage statements P4 and disposal statements with P5, e.g., *P102: Keep out of reach of children*.



Figure 1: Type of chemical hazards each GHS pictogram represents
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These statements appear on the product label and the safety data sheet and are linked to a specific hazard statement and pictogram.

These are just a few elements of the GHS, mostly pertaining to the product label, because the entirety of the GHS is beyond the scope of this article. What is important to note is that farmers and farmworkers must familiarise themselves with these important elements because they are the tools that will guide them to work with these products safely. Remember that the GHS's aim is to communicate the inherent hazard of the chemical, and because of this hazard, there are certain risks involved with working with the product, but these are mitigated if the label instructions are followed. Just because

a product is hazardous, does not mean it cannot be applied safely. It is similar to driving a vehicle. The vehicle itself can be a hazard if you consider the number of accidents on the road, but that does not mean that we ban vehicles altogether. Rather, we mitigate the risk by wearing a safety belt, adhering to the speed limit and following other road safety regulations. It is the same when working with hazardous chemicals, which is why understanding the product label is so important. And remember, any application of a crop protection product in any manner other than the label instructions is a contravention of the law, so do the right thing and make sure you, and any person working with you, are familiar with the product label details.

