

Textbook for workers who handle chemical substances

English

Know the properties of chemical
substances

For safe handling!

Introduction

This textbook summarizes how to read information on the hazard of chemical substances that workers should know when dealing with chemical substances.

Text composition

- 1. Check the hazard of chemical substances before handling them!**
- 2. Points for reading chemical substance information from labels**
- 3. What is the meaning of the pictogram on the label?**
- 4. How do occupational accidents caused by chemical substances occur?**
- 5. Precautions when handling chemical substances (Check the label properly)!**
- 6. Points to follow in daily work**

1. Check the hazard of chemical substances before handling them!

Which is dangerous ?

Which is harmful ?



Do you know the hazards of chemicals?



Be sure to receive occupational safety and health education on the hazards of chemical substances from labels!

When actually handling chemical substances, let's check their hazard.

2. Points for reading chemical substance information from labels

Let us take a look at the GHS label. The label contains the following 5 items and supplier information.

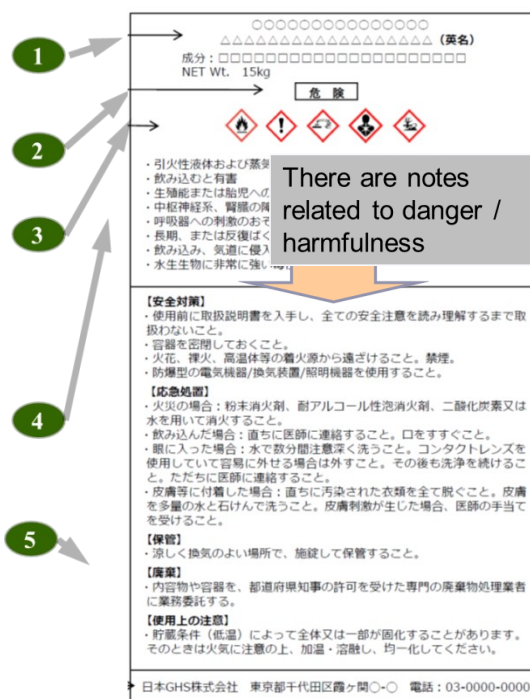
① [the name of the chemical product](#)

② [signal warning](#)

③ [pictogram](#)

④ [hazardous information](#)










⑤ [precautionary statements](#)



- ① Look at the name of the chemical product and confirm whether it is the one you actually intend to use. Even if the raw materials are subdivided, the label attached at the time of purchase must be attached as it is. When you replace the purchased container with another container, stick it properly.
- ② As a warning word, the words "danger" or "warning" are attached depending on the strength of the hazard. Read "danger" as "dangerous!" And "warning" as "be careful!".
- ③ The pictorial display is a display that shows what kind of hazard it has. Let's see the pictograms so that you can understand the hazard of chemical substances at a glance.
- ④ Hazard information describes the hazard according to the type and classification of the hazard. From here, you can know the properties of hazard
- ⑤ The points to be noted in handling are described. You can find out about the unsafe condition of chemical substances and the unsafe behavior of handlers by looking at the precautionary statements. Please read it carefully as it contains the most important information for handling.

3. What is the meaning of the pictogram on the label?

Below is a list of the meanings of pictogram. Let's be able to understand the hazard at a glance from the pictogram.

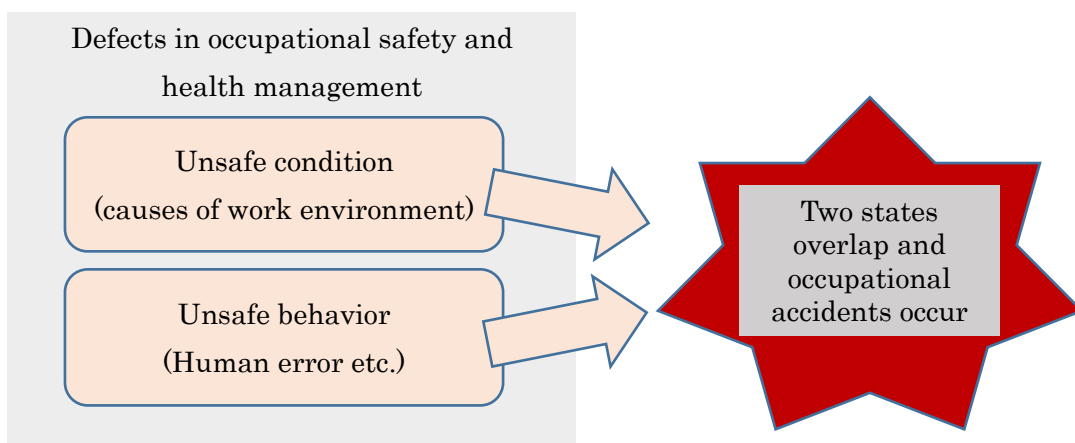
<p>Flame</p> 	<p>Flammable gases</p> <p>Flammable liquids</p> <p>Flammable solids</p> <p>Self-reactive substances and mixtures</p> <p>others</p>	<p>Flame over circle</p> 	<p>Oxidizing gases</p> <p>Oxidizing liquids</p> <p>Oxidizing solids</p>	<p>Exploding bomb</p> 	<p>Explosives (division 1.1-1.4)</p> <p>Self-reactive substances and mixtures</p> <p>Organic peroxides</p>
<p>Corrosion</p> 	<p>Corrosive to metals</p> <p>Skin corrosion (category 1)</p> <p>Serious eye damage (category 1)</p>	<p>Gas cylinder</p> 	<p>Gases under pressure</p>	<p>Skull and crossbones</p> 	<p>Acute toxicity (category 1-3)</p>
<p>Warning</p> 	<p>Acute toxicity (category 4)</p> <p>Skin irritation (category 2)</p> <p>Eye irritation (category 2A)</p> <p>Skin sensitization</p> <p>Specific target organ toxicity (category 3)</p> <p>others</p>	<p>Environment</p> 	<p>Hazardous to the aquatic environment</p>	<p>Health hazard</p> 	<p>Respiratory sensitization</p> <p>Germ cell mutagenicity</p> <p>Carcinogenicity</p> <p>Reproductive toxicity</p> <p>Specific target organ system toxicity (category 1, 2)</p> <p>others</p>

4. How do occupational accidents caused by chemical substances occur?

What kind of defects do occupational accidents result from?

There are two causes to the occurrence of occupational accidents.

- "Unsafe condition" in terms of things such as equipment and raw materials that are the work environment
- "Unsafe behavior " in terms of workers' unskilled work



How do occupational accidents caused by chemical substances occur at work sites?

Occupational accidents occur when unsafe conditions of chemical substances and unsafe behavior of workers overlap each other. To prevent occupational accidents caused by chemical substances, we can respond if we can know the unsafe condition of chemical substances and the unsafe behavior when handling chemical substances. The points to avoid the unsafe conditions and unsafe behavior are given in the notes on the label.

5. Precautions when handling chemical substances (Check the label properly)!

There are cautionary notes depending on the properties of the hazard. There is a description like the following example. It is important not to create an unsafe state of chemical substances according to the precautionary statement and not to act unsafely when handling.

Do not leave chemicals unsafe

There are precautions for handling and storage on the label, and the storage conditions etc. in the precautions should be observed.

Example: Precautionary statements regarding acute toxicity, flammable liquids, etc.

- Store in a well-ventilated place. Keep the container sealed
- Store in a well-ventilated place. Place in a cool place

Do not take unsafe behavior when handling chemicals

Do not act contrary to the precautionary statement on the label.

Example: Precautionary statements on reproductive toxicity, carcinogenicity, etc.

- Obtain the instruction manual before use
- Do not handle until you have read and understood all safety precautions.

6. Points to follow in daily work

Know the properties of chemical substances, think about what kind of hazards are lurking from the handling methods and procedures, and properly observe the following in your daily work.

- ◆ **Observe the specified work procedure (work standard) and do not work in any other way.**
- ◆ **Fully understand the need for protective equipment and wear them in an appropriate manner.**
- ◆ **Understand what should and should not be done from an occupational health and safety perspective.**
- ◆ **If you do not know the work procedure, be sure to check with the person in charge.**
- ◆ **Be careful even if you are accustomed to handling it, and do not handle or judge it carelessly.**