

Workplace Instruction –
Workplace



Activities involving irritating and corrosive substances

Working with dangerous substances I
Guidance for safety briefing



Hazards and risks involved by working with irritants and corrosive substances

Facts

Substances which are labelled as irritating can, from the very first contact, cause damage to skin and mucosa (eyes, respiratory tract).

Acid substances may even destroy tissue. Examples for such are: acids, alkaline solutions and certain saline solutions.

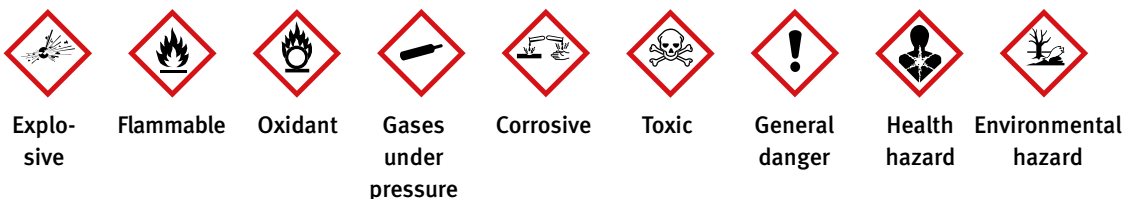
What are the dangerous substances and how are they labelled?

These substances are working materials that can damage the health of employees. They are labelled with hazard pictograms and signal words like „Danger“ and „Warning“ and have safety instructions and notes. Depending on the danger, signal words may be „Warning“.

- 1 Product Identifier
- 2 GHS pictograms with signal words and hazard statements
- 3 Precautionary statements
- 4 Supplier Information
- 5 Filling capacity

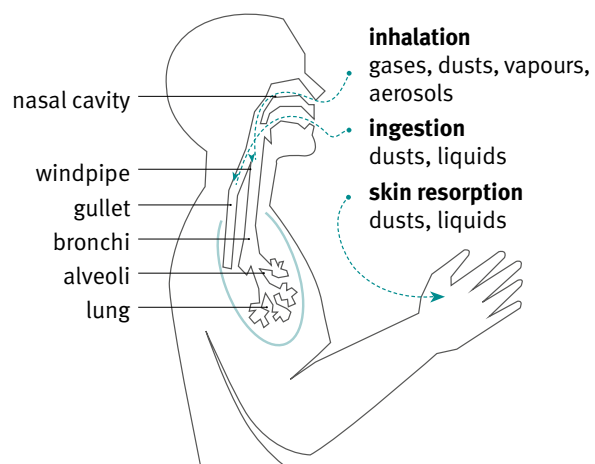


Since 2015 uniform pictograms have been used according to Globally Harmonised System (GHS) (Classification, Labelling, Packing):



How they enter the body

Hazardous substances may be absorbed into the body by inhaling (gases, dusts, vapours, aerosols), through the skin (dusts, liquids) and swallowing (dusts and liquids).





What are the hazards?

- **Absorption through the skin:** absorbed alkaline solutions and acids could cause redness of the skin and blister
- **Eye contact:** very serious since this could lead to irreversible eye damage
- **Inhalation:** breathing in toxic, alkaline vapours, this could damage the respiratory tract

The effects are dependent on the concentration of the solutions, the quantity applied, the duration of exposure and the temperature of the hazardous substances. Even when extremely diluted to a large extent, acids and alkaline solutions can still cause irritation. Contact of irritants with the skin or mucous membranes can cause inflammation. Contact with corrosives can even destroy the affected tissue.

How to protect yourself

- **Follow the operating instructions**
- **Observe safety labelling**
- **Use personal protection measures like:**
 - › observe hand and skin protection plan
 - › wear personal protective equipment (e.g. protective gloves, safety goggles and face shields)
- › strictly no eating, drinking, smoking, sniffing and chewing gum when working with dangerous substances
- › use of exhaust ventilation/vacuum at the workplace.
- **Behaviour in case of danger:** follow instructions of correct behaviour in case of danger and when giving first aid.

Observe safety labelling and use personal protective equipment!



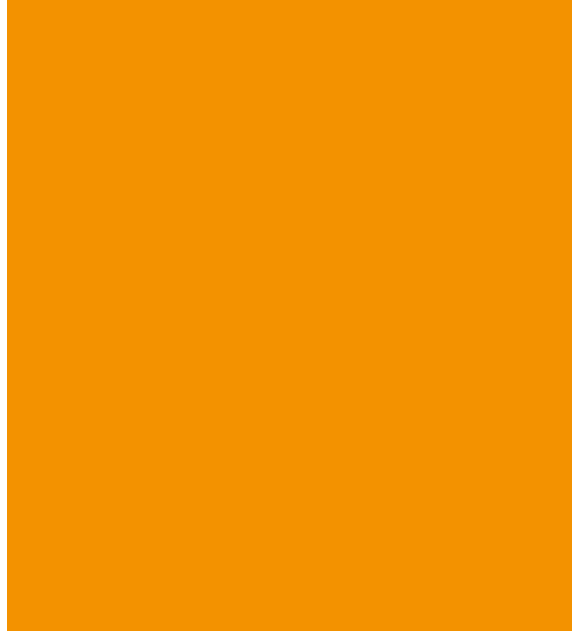
Safety gloves must be worn





Eye protection must be worn



Respiratory equipment must be worn



Hazards caused by exposure to corrosives and irritants

	CORROSIVE SUBSTANCES	IRRITATING SUBSTANCES
	Corrosive substances, signal word: danger	Irritating substances, signal word: warning
		
Ingredients	<ul style="list-style-type: none"> • Cause severe skin burns and eye damage (H314) • Cause serious eye damage (H318) 	<ul style="list-style-type: none"> • Cause skin irritation (H315) • Cause serious eye irritation (H319) • May cause respiratory irritation (H335) • May cause an allergic reaction (H317)
Risks	<ul style="list-style-type: none"> • Chemical burns • Inflammation • Cloudiness of the cornea • Defatting of the skin • Open wounds, difficult to heal • Severe irritation of the mucous membranes, respiratory tract and lungs • Protective film of skin is destroyed • Tissue destruction (protein denaturation) • Chemical burning of the eyes 	<ul style="list-style-type: none"> • Irritation of cornea, irritation of mucous membranes • Redness of the skin • Skin cracks • Defatting of protective skin layer • Possible triggering of an allergy
Protective measures	<ul style="list-style-type: none"> • Work with exhaust ventilation, use protective gloves • Use safety glasses • Avoid contact with eyes and skin • Do not inhale vapours 	<ul style="list-style-type: none"> • Sufficient ventilation and exhaust • Safety glasses when exposed to fluid that spills, protective gloves • Skin protection
Examples	<ul style="list-style-type: none"> • Acids and its vapour (saline solutions, sulfuric acid) concentrated saline solutions (fixer, developer) • Alkaline solutions (caustic soda and potassium hydroxide) • Ammonia aqueous solution • Watertreatment: sodium hypochlorite aqueous solution containing active chlorine • Galvanisation: nitric acid 53%, concentrated sodium hydroxide • Anodising bath: concentrated degreasing steel parts: sodium hydroxide 	<ul style="list-style-type: none"> • Diluted acid and alkaline solutions • Developer and fixing solutions for film and photo production

Picture credits:

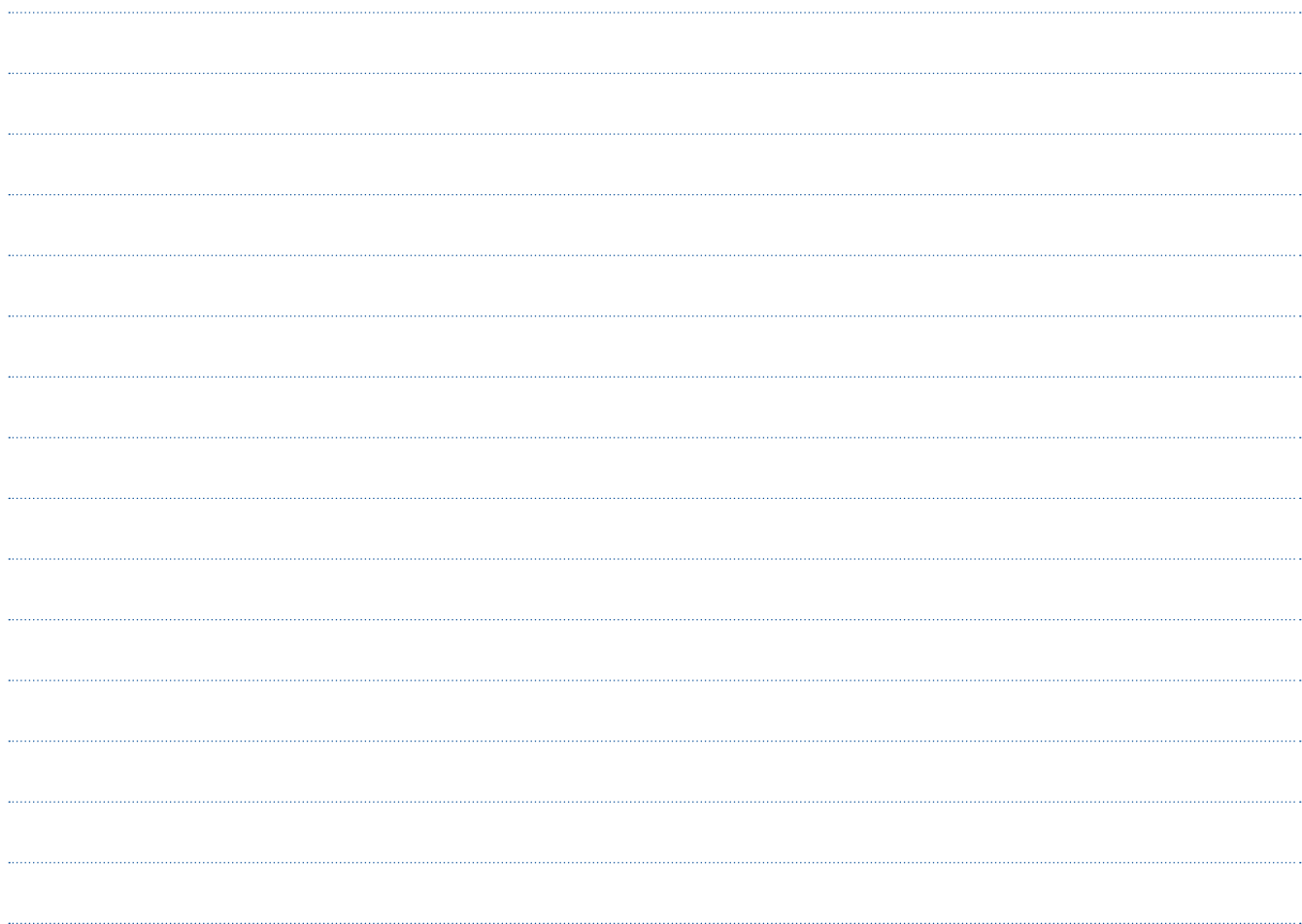
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Irritants and corrosive substances

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