

# HARMFUL AGENTS AND MATERIALS

## Limit values and carcinogenic agents

### LIMIT VALUES

#### What is the purpose of setting limit values?

Limit values, such as the maximum permissible concentration (MAK in German) or the technical reference concentration (TRK in German), are intended to protect the health of employees.

Employers are responsible for protecting their employees' health. Employers have to make every effort or ensure that concentrations are permanently and reliably kept below the MAK and TRK levels.

#### What exactly do MAK and TRK mean?

The MAK value, i.e. the maximum permissible concentration, is an occupational exposure limit for airborne exposure to chemical agents at which said substance generally does not affect the health of employees. In individual cases (e.g. pregnant women, adolescents), damage to health cannot be completely ruled out, however.

The TRK value, i.e. the technical reference concentration, is the lowest possible concentration of a substance in the air at a workplace which can be achieved according to the state of the art.

### IMPORTANT

The MAK and TRK values applicable in Austria are listed in Annex I of the Ordinance governing limit values (Grenzwertverordnung, GKV).

#### What are average exposure limits and short term exposure limits?

The MAK and TRK values imply a certain assessment period (usually 8 hours). During this assessment period an average exposure limit is assumed, i.e. short-term concentration peaks within the assessment period may be higher than the MAK value.

In order to protect employees' health, it is however necessary to set absolute maximum values, i.e. define short-term exposure limits. Short term exposure limits are either mean values (Miw in German) or instantaneous values (Mow in German). As opposed to mean values, instantaneous values are ceiling values which must not be exceeded at any time. Instantaneous values are set for agents which have immediate effects, e.g. severely irritant substances.

### PROVISIONS CONCERNING LIMIT VALUES

PROVISION	MEASURES
Minimisation requirement Section 45 (3) and (4) of the Austrian Workers Protection Act (Arbeitnehmer-Innenschutzgesetz, ASchG) Section 45 (7) ASchG	Exposure should remain below the MAK values. In individual cases, it has to be made sure that exposure levels remain below the respective TRK values. Concentrations of agents posing health hazards for which no MAK or TRK values are available have to be kept as low as possible at all times.
Precautions for cases where limit values are typically exceeded (e.g. maintenance and cleaning work) Section 43 (3) ASchG	All available technical precautions have to be taken to limit exposure; exposure periods have to be kept as short as possible; appropriate protective equipment has to be made available; the number of employees deployed for such activities has to be kept to an absolute minimum.
Precautions for exceeding limit values after accidents. Section 45 (5) and (6) ASchG	Employees using agents or materials for which limit values have been set or which are assumed to permeate through the skin ("H") or which have above-average sensitising properties ("S") have to be informed of this fact. The labels "H" and "S" are stipulated in Annex I of the GKV.
Information § 8 GKV	Employees using agents or materials for which limit values have been set or which are assumed to permeate through the skin ("H") or which have above-average sensitising properties ("S") have to be informed of this fact. The labels "H" and "S" are stipulated in Annex I of the GKV.
Measurements Chapter 5 GKV (Sections 28 to 32)	Employees using agents or materials for which limit values have been set or which are assumed to permeate through the skin ("H") or which have above-average sensitising properties ("S") have to be informed of this fact. The labels "H" and "S" are stipulated in Annex I of the GKV.

## CARCINOGENIC AGENTS

### Which agents are considered carcinogenic?

In Austria, all substances which

- are listed in Annex III GKV or
- are classified or to be labelled as carcinogenic according to the Austrian Chemicals Act (Chemikaliengesetz) 1996 or
- the EU CLP Regulation or
- the Austrian Plant Protection Product Act (Pflanzenschutzmittelgesetz) 2011 are considered carcinogenic.

#### IMPORTANT

If carcinogenic agents are used, a list of all employees exposed has to be kept (Section 47 ASchG).

### Known and probable carcinogens

Substances which are known from experience to cause cancer in humans or animal tests are considered definitely carcinogenic. Substances that showed to be carcinogenic in, for example, animal tests are considered probable carcinogens.

Known carcinogens must be replaced by safe or less hazardous agents, if equivalent results can be obtained using these agents.

Many probable carcinogens eventually turn out to be definitely carcinogenic. Examples: alkali chromates, o-toluidine, ethylene oxide. For this reason, efforts have to be made to replace probable carcinogens.

PROVISION	KNOWN CARCINOGENS	PROBABLE CARCINOGENS
Protective clothes, working clothes Section 14 GKV	Yes	No
Keeping and storing street clothes and working clothes or personal protection equipment separately; responsibility of the company for cleaning working clothes and personal protection equipment. Section 14 GKV	Yes	No
Outdoor routing of exhaust air (prohibition of air recirculation) Section 15 GKV	Yes (exceptions possible under certain conditions)	No
Replacement/substitution Section 42 (1) and (2) ASchG and Section 11 GKV	Yes	Yes, if efforts required are not unreasonable

PROVISION	KNOWN CARCINOGENS	PROBABLE CARCINOGENS
Information of the competent Labour Inspectorate of intended first-time use of agents. Section 42 (5) ASchG + Section 11 GKV	Yes	No
Justification if agent is not replaced Section 42 (7) ASchG + Section 11 GKV	Yes/No	No
Use in closed systems Section 43 (1) ASchG + Section 11 GKV	Yes, if possible for the relevant type of work and according to the state of the art	No
Restricted access Section 44 (4) ASchG + Section 11 GKV	Yes	No
List of exposed employees Section 47 ASchG	Yes	Yes

#### IMPORTANT

##### Known carcinogens

GKV Annexes III A1 and III A2 and III C (groups of agents)  
Examples: asbestos, chromium(IV) compounds, diesel engine emissions, nickel, ethylene oxide.

##### Probable carcinogens

GKV Annexes III B and III C (groups of agents)  
Examples: vinyl acetate, MDI (4,4'-diphenylmethane diisocyanate).

## LEGAL FRAMEWORK

Health and Safety at Work Act (ArbeitnehmerInnenschutzgesetz, ASchG),  
Federal Law Gazette I no. 450/1994  
Regulation governing limit values 2011 (GKV 2011),  
Federal Law Gazette II no. 253/2001

[arbeitsinspektion.gv.at](http://arbeitsinspektion.gv.at)

The competent Labour Inspectorate will be happy to advise you

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