

# COUNCIL DIRECTIVE 98/24/EC

of 7 April 1998

on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)

## SECTION I

### GENERAL PROVISIONS

#### *Article 1*

##### **Objective and scope**

1. This Directive, which is the fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC, lays down minimum requirements for the protection of workers from risks to their safety and health arising, or likely to arise, from the effects of chemical agents that are present at the workplace or as a result of any work activity involving chemical agents.
2. The requirements of this Directive apply where hazardous chemical agents are present or may be present at the workplace, without prejudice to the provisions for chemical agents to which measures for radiation protection apply pursuant to Directives adopted under the Treaty establishing the European Atomic Energy Community.
3. For carcinogens at work the provisions of this Directive shall apply without prejudice to more stringent and/or specific provisions contained in Council Directive 90/394/EEC of 28 June 1990 on the protection of workers from the risks related to exposure to carcinogens (sixth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC) ( <sup>1</sup> ).
4. The provisions of Directive 89/391/EEC shall apply fully to the whole field referred to in this Article, without prejudice to more stringent and/or specific provisions contained in this Directive.
5. As far as the transport of hazardous chemical agents is concerned, the provisions of this Directive shall apply without prejudice to more stringent and/or specific provisions contained in Directive 94/55/EC ( <sup>2</sup> ), in Directive 96/49/EC ( <sup>3</sup> ), in the provisions of the IMDG Code, IBC Code and IGC Code as defined in Article 2 of Directive 93/75/EEC ( <sup>4</sup> ), in the provisions of the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterway and of the Regulation for the Carriage of Dangerous Substances on the Rhine as incorporated in Community law and in the technical instructions for the safe transport of dangerous goods issued, at the date of entry into force of this Directive, by the International Civil Aviation Organisation.

#### *Article 2*

##### **Definitions**

For the purpose of this Directive, the terms used shall have the following meanings:

- (a) 'Chemical agent' means any chemical element or compound, on its own or admixed, as it occurs in the natural state or as produced, used or released, including release as waste, by any work activity, whether or not produced intentionally and whether or not placed on the market;
- (b) 'Hazardous chemical agent' means:

(i) any chemical agent which meets the criteria for classification as hazardous within any physical and/or health hazard classes laid down in Regulation (EC) No 1272/2008 of the European Parliament and of the Council ( <sup>5</sup> ), whether or not that chemical agent is classified under that Regulation;

(iii) any chemical agent which, whilst not meeting the criteria for classification as hazardous in accordance with point (i) of point (b) of this Article may, because of its physico-chemical, chemical or toxicological properties and the way it is used or is present in the workplace, present a risk to the safety and health of workers, including any chemical agent that is assigned an occupational exposure limit value under Article 3;

(c) 'Activity involving chemical agents' means any work in which chemical agents are used, or are intended to be used, in any process, including production, handling, storage, transport or disposal and treatment, or which result from such work;

(d) 'Occupational exposure limit value' means, unless otherwise specified, the limit of the time-weighted average of the concentration of a chemical agent in the air within the breathing zone of a worker in relation to a specified reference period;

(e) 'Biological limit value' means the limit of the concentration in the appropriate biological medium of the relevant agent, its metabolite, or an indicator of effect;

(f) 'Health surveillance' means the assessment of an individual worker to determine the state of health of that individual, as related to exposure to specific chemical agents at work;

(g) 'Hazard' means the intrinsic property of a chemical agent with the potential to cause harm;

(h) 'Risk' means the likelihood that the potential for harm will be attained under the conditions of use and/or exposure.

### *Article 3*

#### **Occupational exposure limit values and biological limit values**

1. The Commission shall evaluate the relationship between the health effects of hazardous chemical agents and the level of occupational exposure by means of an independent scientific assessment of the latest available scientific data.

2. On the basis of the evaluation described in paragraph 1, the Commission, after first consulting the Advisory Committee on Safety, Hygiene and Health protection at Work, shall propose European objectives in the form of indicative occupational exposure limit values for the protection of workers from chemical risks, to be set at Community level.

The Commission is empowered to adopt delegated acts in accordance with Article 12a in order to supplement this Directive by establishing or revising the indicative occupational exposure limit values referred to in the first subparagraph of this paragraph, taking into account the availability of measurement techniques.

Member States shall keep workers' and employers' organisations informed of indicative occupational exposure limit values set at Union level.

Where, in duly justified and exceptional cases involving imminent, direct and serious risks to workers' and other persons' physical health and safety, imperative grounds of urgency require action in a very short timeframe, the procedure provided for in Article 12b shall apply to delegated acts adopted pursuant to this Article.

3. For any chemical agent for which an indicative occupational exposure limit value is established at Community level, Member States shall establish a national occupational exposure limit value, taking into account the Community limit value, determining its nature in accordance with national legislation and practice.
4. Binding occupational exposure limit values may be drawn up at Community level and, in addition to the factors considered when establishing indicative occupational exposure limit values, shall reflect feasibility factors while maintaining the aim of ensuring the health of workers at work. Such limit values shall be established in accordance with Article 118a of the Treaty and laid down in Annex I to this Directive.
5. For any chemical agent for which a binding occupational exposure limit value is established. Member States shall establish a corresponding national binding occupational exposure limit value based on, but not exceeding, the Community limit value.
6. Binding biological limit values may be drawn up at Community level on the basis of the evaluation described in paragraph 1 and of the availability of measurement techniques, and shall reflect feasibility factors while maintaining the aim of ensuring the health of workers at work. Such limit values shall be established in accordance with the procedure laid down in Article 118a of the Treaty and laid down in Annex II to this Directive, together with other relevant health surveillance information.
7. For any chemical agent for which a binding biological limit value is established, Member States shall establish a corresponding national binding biological limit value based on, but not exceeding, the Community limit value.
8. Where a Member State introduces or revises a national occupational exposure limit value or a national biological limit value for a chemical agent, it shall inform the Commission and other Member States thereof together with the relevant scientific and technical data. The Commission shall undertake the appropriate action.
9. On the basis of the reports provided by the Member States under Article 15, the Commission shall carry out an assessment of the way in which Member States have taken account of Community indicative limit values when establishing the corresponding national occupational exposure limit values.
10. Standardised methods for the measurement and evaluation of workplace air concentrations in relation to occupational exposure limit values shall be developed in accordance with Article 12(2).

## SECTION II

### EMPLOYERS' OBLIGATIONS

#### *Article 4*

##### **Determination and assessment of risk of hazardous chemical agents**

1. In carrying out the obligations laid down in Articles 6(3) and 9(1) of Directive 89/391/EEC, the employer shall first determine whether any hazardous chemical agents are present at the workplace. If so, he shall then assess any risk to the safety and health of workers arising from the presence of those chemical agents, taking into consideration the following:
  - their hazardous properties,
  - information on safety and health that shall be provided by the supplier (e.g. the relevant safety data sheet in accordance with Regulation (EC) No 1907/2006 of the European Parliament and of the Council ( <sup>6</sup> )),
  - the level, type and duration of exposure,

- the circumstances of work involving such agents, including their amount,
- any occupational exposure limit values or biological limit values established on the territory of the Member State in question,
- the effect of preventive measures taken or to be taken,
- where available, the conclusions to be drawn from any health surveillance already undertaken.

The employer shall obtain additional information which is needed for the risk assessment from the supplier or from other readily available sources. Where appropriate, this information shall comprise the specific assessment concerning the risk to users established on the basis of Community legislation on chemical agents.

2. The employer must be in possession of an assessment of the risk in accordance with Article 9 of Directive 89/391/EEC, and shall identify which measures have been taken in accordance with Articles 5 and 6 of this Directive. The risk assessment shall be documented in a suitable form according to national law and practice, and may include a justification by the employer that the nature and extent of the risks related to chemical agents make a further detailed risk assessment unnecessary. The risk assessment shall be kept up-to-date, particularly if there have been significant changes which could render it out-of-date, or when the results of health surveillance show it to be necessary.

3. Certain activities within the undertaking or establishment, such as maintenance, in respect of which it is foreseeable that there is a potential for significant exposure, or which may result in deleterious effects to safety and health for other reasons, even after all technical measures have been taken, shall be included in the risk assessment.

4. In the case of activities involving exposure to several hazardous chemical agents, the risk shall be assessed on the basis of the risk presented by all such chemical agents in combination.

5. In the case of a new activity involving hazardous chemical agents, work shall only commence after an assessment of the risk of that activity has been made and any preventive measures identified have been implemented.

6. Practical guidelines for the determination and assessment of risk, and for their review and, if necessary, adjustment, shall be developed in accordance with Article 12(2).

#### *Article 5*

#### **General principles for prevention of risks associated with hazardous chemical agents and application of this Directive in relation to assessment of risks**

1. In carrying out his obligation to ensure the health and safety of workers in any activity involving hazardous chemical agents the employer shall take the necessary preventive measures set out in Article 6(1) and (2) of Directive 89/391/EEC and include the measures set out in this Directive.

2. Risks to the health and safety of workers at work involving hazardous chemical agents shall be eliminated or reduced to a minimum by:

- the design and organisation of systems of work at the workplace,
- the provision of suitable equipment for work with chemical agents and maintenance procedures which ensure the health and safety of workers at work,
- reducing to a minimum the number of workers exposed or likely to be exposed,
- reducing to a minimum the duration and intensity of exposure,

- appropriate hygiene measures,
- reducing the quantity of chemical agents present at the workplace to the minimum required for the type of work concerned,
- suitable working procedures including arrangements for the safe handling, storage and transport within the workplace of hazardous chemical agents and waste containing such chemical agents.

Practical guidelines for preventive measures to control risk shall be developed in accordance with Article 12(2).

3. Where the results of the assessment referred to in Article 4(1) reveal a risk to the safety and health of workers, the specific protection, prevention and monitoring measures laid down in Articles 6, 7 and 10 shall be applied.

4. Where the results of the risk assessment referred to in Article 4(1) show that, because of the quantities of a hazardous chemical agent present in the workplace, there is only a slight risk to the safety and health of workers, and the measures taken in accordance with paragraphs 1 and 2 of this Article are sufficient to reduce that risk, the provisions of Articles 6, 7 and 10 shall not apply.

### *Article 6*

#### **Specific protection and prevention measures**

1. The employer shall ensure that the risk from a hazardous chemical agent to the safety and health of workers at work is eliminated or reduced to a minimum.

2. In applying paragraph 1, substitution shall by preference be undertaken, whereby the employer shall avoid the use of a hazardous chemical agent by replacing it with a chemical agent or process which, under its condition of use, is not hazardous or less hazardous to workers' safety and health, as the case may be.

Where the nature of the activity does not permit risk to be eliminated by substitution, having regard to the activity and risk assessment referred to in Article 4, the employer shall ensure that the risk is reduced to a minimum by application of protection and prevention measures, consistent with the assessment of the risk made pursuant to Article 4. These will include, in order of priority:

(a) design of appropriate work processes and engineering controls and use of adequate equipment and materials, so as to avoid or minimise the release of hazardous chemical agents which may present a risk to workers' safety and health at the place of work;

(b) application of collective protection measures at the source of the risk, such as adequate ventilation and appropriate organizational measures;

(c) where exposure cannot be prevented by other means, application of individual protection measures including personal protective equipment.

Practical guidelines for protection and prevention measures to control risk shall be developed in accordance with Article 12(2).

3. The measures referred to in paragraph 2 of this Article shall be accompanied by health surveillance in accordance with Article 10 if it is appropriate to the nature of the risk.

4. Unless the employer clearly demonstrates by other means of evaluation that, in accordance with paragraph 2, adequate prevention and protection have been achieved, the employer shall carry out on a regular basis, and when any change occurs in the conditions which may affect workers' exposure to chemical agents, such measurements of

chemical agents which may present a risk to worker's health at the workplace as are necessary, in particular in relation to the occupational exposure limit values.

5. The employer shall take into account the results of the procedures referred to in paragraph 4 of this Article in carrying out the obligations laid down in or resulting as a consequence of Article 4.

In any event, where an occupational exposure limit value effectively established on the territory of a Member State has been exceeded, the employer shall immediately take steps, taking into account the nature of that limit, to remedy the situation by carrying out preventive and protective measures.

6. On the basis of the overall assessment of and general principles for the prevention of risks in Articles 4 and 5, the employer shall take technical and/or organisational measures appropriate to the nature of the operation, including storage, handling and segregation of incompatible chemical agents, providing protection of workers against hazards arising from the physico-chemical properties of chemical agents. In particular he shall take measures, in order of priority, to:

(a) prevent the presence at the workplace of hazardous concentrations of inflammable substances or hazardous quantities of chemically unstable substances or, where the nature of the work does not allow that,

(b) avoid the presence of ignition sources which could give rise to fires and explosions, or adverse conditions which could cause chemically unstable substances or mixtures of substances to give rise to harmful physical effects, and

(c) mitigate the detrimental effects to the health and safety of workers in the event of fire or explosion due to the ignition of inflammable substances, or harmful physical effects arising from chemically unstable substances or mixtures of substances.

Work equipment and protective systems provided by the employer for the protection of workers shall comply with the relevant Community provisions on design, manufacture and supply with respect to health and safety. Technical and/or organisational measures taken by the employer shall take account of and be consistent with the equipment group categorisation in Annex I to Directive 94/9/EC of the European Parliament and of the Council of 23 March 1994 on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres ( <sup>7</sup> ).

The employer shall take measures to provide sufficient control of plant, equipment and machinery or provision of explosion suppression equipment or explosion pressure relief arrangements.

#### *Article 7*

##### **Arrangements to deal with accidents, incidents and emergencies**

1. Without prejudice to the obligations laid down in Article 8 of Directive 89/391/EEC, the employer shall, in order to protect the safety and health of workers from an accident, incident or emergency related to the presence of hazardous chemical agents at the workplace, establish procedures (action plans) which can be put into effect when any such event occurs, so that appropriate action is taken. These arrangements shall include any relevant safety drills which are to be performed at regular intervals, and the provision of appropriate first aid facilities.

2. In the case of the occurrence of an event such as is mentioned in paragraph 1, the employer shall immediately take steps to mitigate the effects of the event and to inform the workers concerned thereof.

In order to restore the situation to normal:

— the employer shall implement appropriate measures to remedy the situation as soon as possible,

— only those workers who are essential to the carrying out of repairs and other necessary work shall be permitted to work in the affected area.

3. The workers who are permitted to work in the affected area shall be provided with appropriate protective clothing, personal protective equipment, specialised safety equipment and plant which they must use as long as the situation persists; that situation shall not be permanent.

Unprotected persons shall not be permitted to remain in the affected area.

4. Without prejudice to Article 8 of Directive 89/391/EEC the employer shall take the measures necessary to provide the warning and other communication systems required to signal an increased risk to safety and health, to enable an appropriate response and to launch remedial actions, assistance, escape and rescue operations immediately if the need arises.

5. The employer shall ensure that information on emergency arrangements involving hazardous chemical agents is available. The relevant internal and external accident and emergency services shall have access to this information. It shall include the following:

— advance notice of relevant work hazards, hazard identification arrangements, precautions and procedures, so that the emergency services can prepare their own response procedures and precautionary measures; and

— any available information concerning specific hazards arising, or likely to rise, at the time of an accident or emergency, including information on procedures prepared pursuant to this Article.

#### *Article 8*

#### **Information and training for workers**

1. Without prejudice to Articles 10 and 12 of Directive 89/391/EEC the employer shall ensure that workers and/or their representatives are provided with:

— the data obtained pursuant to Article 4 of this Directive, and further informed whenever a major alteration at the workplace leads to a change in these data,

— information on the hazardous chemical agents occurring in the workplace, such as the identity of those agents, the risks to safety and health, relevant occupational exposure limit values and other legislative provisions,

— training and information on appropriate precautions and actions to be taken in order to safeguard themselves and other workers at the workplace,

— access to any safety data sheet provided by the supplier in accordance with Article 31 of Regulation (EC) No 1907/2006;

and that the information is:

— provided in a manner appropriate to the outcome of the risk assessment pursuant to Article 4 of this Directive. This may vary from oral communication to individual instruction and training supported by information in writing, depending on the nature and degree of the risk revealed by the assessment required by the said Article,

— updated to take account of changing circumstances.

2. Where containers and pipes for hazardous chemical agents used at work are not marked in accordance with the relevant Community legislation on the labelling of chemical agents and on safety signs at the workplace, the employer shall, without prejudice to the derogations provided for in the abovementioned legislation, ensure that the contents of

the containers and pipes, together with the nature of those contents and any associated hazards, are clearly identifiable.

3. Member States may take measures necessary to ensure that employers are able to obtain on request, preferably from the producer or supplier, all information on hazardous chemical agents that is necessary to apply Article 4(1) of this Directive, insofar as neither Regulation (EC) No 1907/2006, nor Regulation (EC) No 1272/2008 include any obligation to provide information.

## SECTION III

### MISCELLANEOUS PROVISIONS

#### *Article 9*

#### **Prohibitions**

1. To prevent the exposure of workers to health risks from certain chemical agents and/or certain activities involving chemical agents, the production, manufacture or use at work of the chemical agents and the activities set out in Annex III shall be prohibited to the extent specified therein.

2. Member States may permit derogations from requirements of paragraph 1 in the following circumstances:

- for the sole purpose of scientific research and testing, including analysis,
- for activities intended to eliminate chemical agents that are present in the form of by-products or waste products,
- for the production of the chemical agents referred to in paragraph 1 for use as intermediates, and for such use.

The exposure of workers to chemical agents referred to in paragraph 1 must be prevented, in particular by providing that the production and earliest possible use of such chemical agents as intermediates must take place in a single closed system, from which the aforesaid chemical agents may be removed only to the extent necessary to monitor the process or service the system.

Member States may provide for systems of individual authorisations.

3. When derogations are permitted pursuant to paragraph 2, the competent authority shall request the employer to submit the following information:

- the reason for requesting the derogation,
- the quantity of the chemical agent to be used annually,
- the activities and/or reactions or processes involved,
- the number of workers liable to be involved,
- the precautions envisaged to protect the safety and health of workers concerned,
- the technical and organisational measures taken to prevent the exposure of workers.

4. The Council, in accordance with the procedure laid down in Article 118a of the Treaty, may amend the list of prohibitions under paragraph 1 of this Article, to include further chemical agents or activities.

#### *Article 10*



## Health surveillance

1. Without prejudice to Article 14 of Directive 89/391/EEC, Member States shall introduce arrangements for carrying out appropriate health surveillance of workers for whom the results of the assessment referred to in Article 4 of this Directive reveal a risk to health. These arrangements, including the requirements specified for health and exposure records and their availability, shall be introduced in accordance with national laws and/or practice.

Health surveillance, the results of which shall be taken into account in applying preventive measures in the specific workplace, shall be appropriate where:

- the exposure of the worker to a hazardous chemical agent is such that an identifiable disease or adverse health effect may be related to the exposure, and
- there is a likelihood that the disease or effect may occur under the particular conditions of the worker's work, and
- the technique of investigation is of low risk to workers.

Furthermore, there shall be valid techniques for detecting indications of the disease or effect.

Where a binding biological limit value has been set as indicated in Annex II, health surveillance shall be a compulsory requirement for work with the hazardous chemical agent in question, in accordance with the procedures in that Annex. Workers shall be informed of this requirement before being assigned to the task involving risk of exposure to the hazardous chemical agent indicated.

2. Member States shall establish arrangements to ensure that for each worker who undergoes health surveillance in accordance with the requirements of paragraph 1, individual health and exposure records are made and kept up-to-date.

3. Health and exposure records shall contain a summary of the results of health surveillance carried out and of any monitoring data representative of the exposure of the individual. Biological monitoring and related requirements may form part of health surveillance.

Health and exposure records shall be kept in a suitable form so as to permit consultation at a later date, taking into account any confidentiality.

Copies of the appropriate records shall be supplied to the competent authority on request. The individual worker shall, at his request, have access to the health and exposure records relating to him personally.

Where an undertaking ceases to trade, the health and exposure records shall be made available to the competent authority.

4. Where, as a result of health surveillance:

- a worker is found to have an identifiable disease or adverse health effect which is considered by a doctor or occupational health-care professional to be the result of exposure at work to a hazardous chemical agent, or
- a binding biological limit value is found to have been exceeded,

the worker shall be informed by the doctor or other suitably qualified person of the result which relates to him personally, including information and advice regarding any health surveillance which he should undergo following the end of the exposure, and

the employer shall:

- review the risk assessment made pursuant to Article 4(1),

- review the measures provided to eliminate or reduce risks pursuant to Articles 5 and 6,
- take into account the advice of the occupational health-care professional or other suitably qualified person or the competent authority in implementing any measures required to eliminate or reduce risk in accordance with Article 6, including the possibility of assigning the worker to alternative work where there is no risk of further exposure, and
- arrange continued health surveillance and provide for a review of the health status of any other worker who has been similarly exposed. In such cases the competent doctor or occupational health-care professional or the competent authority may propose that exposed persons undergo a medical examination.

#### *Article 11*

### **Consultation and participation of workers**

Consultation and participation of workers and/or their representatives shall take place in accordance with Article 11 of Directive 89/391/EEC on the matters covered by this Directive, including the Annexes hereto.

#### *Article 12*

### **Adaptation of the Annexes, preparation and adoption of technical guidance**

1. The Commission is empowered to adopt delegated acts in accordance with Article 12a to make strictly technical amendments to the Annexes, in order to take account of technical harmonisation and standardisation concerning chemical agents, as well as technical progress, changes in international standards or specifications and new findings with regard to chemical agents.

Where, in duly justified and exceptional cases involving imminent, direct and serious risks to workers' and other persons' physical health and safety, imperative grounds of urgency require action in a very short timeframe, the procedure provided for in Article 12b shall apply to delegated acts adopted pursuant to this Article.

2. The Commission shall draw up practical guidelines of a non-binding nature. These guidelines shall address the topics referred to in Articles 3, 4, 5 and 6, and Annex II, section 1.

The Commission shall first consult the Advisory Committee on Safety, Hygiene and Health Protection at Work in accordance with Decision 74/325/EEC.

In the context of the application of this Directive, Member States shall take account as far as possible of these guidelines in drawing up their national policies for the protection of the health and safety of workers.

#### *Article 12a*

### **Exercise of the delegation**

1. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.

2. The power to adopt delegated acts referred to in Article 3(2) and Article 12(1) shall be conferred on the Commission for a period of five years from 26 July 2019. The Commission shall draw up a report in respect of the delegation of power not later than nine months before the end of the five-year period. The delegation of power shall be tacitly extended for periods of an identical duration, unless the European Parliament or the Council opposes such extension not later than three months before the end of each period.

3. The delegation of power referred to in Article 3(2) and Article 12(1) may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.
4. Before adopting a delegated act, the Commission shall consult experts designated by each Member State in accordance with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making ( <sup>8</sup> ).
5. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.
6. A delegated act adopted pursuant to Article 3(2) and Article 12(1) shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council.

#### *Article 12b*

### **Urgency procedure**

1. Delegated acts adopted under this Article shall enter into force without delay and shall apply as long as no objection is expressed in accordance with paragraph 2. The notification of a delegated act to the European Parliament and the Council shall state the reasons for the use of the urgency procedure.
2. Either the European Parliament or the Council may object to a delegated act in accordance with the procedure referred to in Article 12a(6). In such a case, the Commission shall repeal the act immediately following the notification of the decision to object by the European Parliament or by the Council.

#### *Article 13*

### **Repeal and amendment of earlier Directives**

1. Directives 80/1107/EEC, 82/605/EEC and 88/364/EEC shall be repealed on the date referred to in Article 14(1).
2. Council Directive 83/477/EEC of 19 September 1983 on the protection of workers from the risks related to exposure to asbestos at work (second individual Directive within the meaning of Article 8 of Directive 80/1107/EEC) ( <sup>9</sup> ), is amended as follows:
  - (a) in the first sentence of Article 1(1), the following words shall be deleted:  
'which is the second individual Directive within the meaning of Article 8 of Directive 80/1107/EEC';
  - (b) Article 9(2) shall be replaced by the following:  
'2. The amendments necessary to adapt the Annexes to this Directive to technical progress shall be adopted in accordance with the procedure laid down in Article 17 of Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at the workplace ( <sup>10</sup> ).
  - (c) in the second subparagraph of Article 15(1) the words 'in accordance with the procedure set out in Article 10 of Directive 80/1107/EEC' shall be replaced by 'in accordance with the procedure laid down in Article 17 of Directive 89/391/EEC'.

3. Council Directive 86/188/EEC of 12 May 1986 on the protection of workers from the risks related to exposure to noise at work ( <sup>10</sup> ) is amended as follows:

(a) in Article 1(1), the following words shall be deleted:

'which is the third individual Directive within the meaning of Directive 80/1107/EEC';

(b) in Article 12(2), the second subparagraph shall be replaced by the following:

'Annexes I and II shall be adapted to technical progress in accordance with the procedure laid down in Article 17 of Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at the workplace ( <sup>12</sup> ).

4. Any other reference in Directive 83/477/EEC and Directive 86/188/EEC to Directive 80/1107/EEC shall be obsolete from the date of repeal of the said Directive.

5. Directives 91/322/EEC and 96/94/EC remain in force.

#### SECTION IV

### FINAL PROVISIONS

#### *Article 14*

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive not later than 5 May 2001. They shall forthwith inform the Commission thereof.

When Member States adopt these measures, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. The methods for making such reference shall be laid down by Member States.

2. Member States shall communicate to the Commission the texts of the provisions of national law which they have already adopted or which they adopt in the field governed by this Directive.

#### *Article 16*

This Directive shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Communities*.

#### *Article 17*

This Directive is addressed to the Member States.

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#### *ANNEX I*

### LIST OF BINDING OCCUPATIONAL EXPOSURE LIMIT VALUES

Name of agent	EINECS No <sup>(1)</sup>	CAS No <sup>(2)</sup>	Occupational exposure limit value 8 h <sup>(3)</sup>		Occupational exposure limit value Short-term <sup>(4)</sup>	
			mg/m <sup>3</sup> <sup>(5)</sup>	ppm <sup>(6)</sup>	mg/m <sup>3</sup>	ppm
Inorganic lead and its compounds			0,15			

(<sup>1</sup>) EINECS: European Inventory of Existing Commercial Chemical Substances.  
(<sup>2</sup>) CAS: Chemical Abstracts Service.  
(<sup>3</sup>) Measured or calculated in relation to a reference period of eight hours, time-weighted average.  
(<sup>4</sup>) A limit value above which exposure should not occur, and which is related to a 15 minute period unless otherwise specified.  
(<sup>5</sup>) mg/m<sup>3</sup> = milligrams per cubic metre of air at 20 °C and 101,3 kPa.  
(<sup>6</sup>) ppm = parts per million by volume in air (ml/m<sup>3</sup>).

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*ANNEX II*

**BINDING BIOLOGICAL LIMIT VALUES AND HEALTH SURVEILLANCE MEASURES**

**1. Lead and its ionic compounds**

1.1. Biological monitoring must include measuring the blood-lead level (PbB) using absorption spectrometry or a method giving equivalent results. The binding biological limit value is:

70 µg Pb/100 ml blood

1.2. Medical surveillance is carried out if:

- exposure to a concentration of lead in air is greater than 0,075 mg/m<sup>3</sup>, calculated as a time-weighted average over 40 hours per week, or
- a blood-lead level greater than 40 µg Pb/100 ml blood is measured in individual workers.

1.3. Practical guidelines for biological monitoring and medical surveillance must be developed in accordance with Article 12(2). These must include recommendations of biological indicators (e.g. ALAU, ZPP, ALAD) and biological monitoring strategies.

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*ANNEX III*

**PROHIBITIONS**

The production, manufacture or use at work of the chemical agents and activities involving chemical agents set out below are prohibited. The prohibition does not apply if the chemical agent is present in another chemical agent, or as a constituent of waste, provided that its individual concentration therein is less than the limit specified.

**(a) Chemical Agents**

<b>EINECS No <sup>(1)</sup></b>	<b>CAS No <sup>(2)</sup></b>	<b>Name of agent</b>	<b>Concentration limit for exemption</b>
202-080-4	91-59-8	2-naphthylamine and its salts	0,1 % w/w
202-177-1	92-67-1	4-aminodiphenyl and its salts	0,1 % w/w
202-199-1	92-87-5	Benzidine and its salts	0,1 % w/w
202-204-7	92-93-3	4-nitrodiphenyl	0,1 % w/w
<p>(<sup>1</sup>) EINECS: European Inventory of Existing Commercial Chemical Substances            (<sup>2</sup>) CAS: Chemical Abstracts Service</p>			

**(b) Work activities**

None.

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(<sup>1</sup>) OJ L 196, 26.7.1990, p. 1.

(<sup>2</sup>) Council Directive 94/55/EC of 21 November 1994 on the approximation of the laws of the Member States with regard to the transport of dangerous goods by road (OJ L 319, 12.12.1994, p. 7). Directive as amended by Commission Directive 96/86/EC (OJ L 335, 24.12.1996, p. 43).

(<sup>3</sup>) Council Directive 96/49/EC of 23 July 1996 on the approximation of the laws of the Member States with regard to the transport of dangerous goods by rail (OJ L 235, 17.9.1996, p. 25). Directive as amended by Commission Directive 96/87/EC (OJ L 335, 24.12.1996, p. 45).

(<sup>4</sup>) Council Directive 93/75/EEC of 13 September 1993 concerning minimum requirements for vessels bound for or leaving Community ports and carrying dangerous or polluting goods (OJ L 247, 5.10.1993, p. 19). Directive as last amended by Commission Directive 97/34/EC (OJ L 158, 17.6.1997, p. 40).

(<sup>5</sup>) Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (OJ L 353, 31.12.2008, p. 1).

(<sup>6</sup>) Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (OJ L 396, 30.12.2006, p. 1).

(<sup>7</sup>) OJ L 100, 19.4.1994, p. 1.

(<sup>8</sup>) OJ L 123, 12.5.2016, p. 1.

(<sup>9</sup>) OJ L 263, 24.9.1983, p. 25. Directive as amended by Directive 91/382/EEC (OJ L 206, 29.7.1991, p. 16).

(<sup>11</sup>) OJ L 183, 29.6.1989, p. 1.’;

(<sup>10</sup>) OJ L 137, 24.5.1986, p. 28.

(<sup>12</sup>) OJ L 183, 29.6.1989, p. 1.’

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