II

(Preparatory Acts)

COMMISSION

Proposal for a Council Directive on the protection of the health and safety of workers from the risks related to chemical agents at work

(93/C 165/04)

COM(93) 155 final — SYN 459

(Submitted by the Commission on 17 May 1993)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 118A thereof,

Having regard to the proposal from the Commission, drawn up after consultation with the Advisory Committee on Safety, Hygiene and Health Protection at Work,

In cooperation with the European Parliament,

Having regard to the opinion of the Economic and Social Committee,

Whereas Article 118A of the Treaty provides that the Council shall adopt, by means of Directives, minimum requirements for encouraging improvements, especially in the working environment, to guarantee a better level of protection of the safety and health of workers;

Whereas, pursuant to that Article, such Directives must avoid imposing administrative, financial and legal constraints which would hold back the creation and development of small and medium-sized undertakings;

Whereas the improvement of workers' safety, hygiene and health at work is an objective which should not be subordinated to purely economic considerations;

Whereas the respect of minimum requirements on the protection of the health and safety of workers from the risks related to chemical agents ensures not only the protection of the health and safety of each individual worker but also provides a level of minimum protection of all workers in the Community which avoids any possible distortion in the area of competitiveness;

Whereas a consistent level of protection from the risks related to chemical agents has to be established for the Community as a whole and whereas that level of protection has to be set not by detailed prescriptive requirements but by a framework of general principles to enable Member States to apply the minimum requirements consistently;

Whereas a work activity involving chemical agents is likely to expose workers to particularly high levels of risk;

Whereas Council Directive 80/1107/EEC of 22 November 1980 on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work [1] as last amended by Directive 88/642/EEC [2], Council Directive 82/605/EEC of 28 June 1982 on the protection of workers from the risks related to exposure to metallic lead and its ionic compounds at work (first individual Directive within the meaning of Article 8 of Directive 80/1107/EEC) [3], and Council Directive 88/364/EEC of 9 June 1988 on the protection of workers by the banning of certain agents and/or certain work activities (fourth individual Directive within the meaning of Article 8 of Directive 80/1107/EEC) [4] should, for the sake of consistency and clarity as well as for technical reasons, be revised and included in a single Directive laying down minimum requirements for the protection of the health and safety of workers in work activities involving chemical agents; whereas these Directives can be repealed;

Whereas this Directive is an individual Directive within the meaning of Article 16 (1) 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 work [5];

Whereas, therefore the provisions of the said Directive, apply in full to workers exposed to chemical agents, without prejudice to more stringent and/or specific provisions contained in this Directive;

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[1] OJ No L 327, 3. 12. 1980, p. 8.
[2] OJ No L 356, 24. 12. 1988, p. 74.
[3] OJ No L 247, 23. 8. 1982, p. 12.
[4] OJ No L 179, 9. 7. 1988, p. 44.
[5] OJ No L 183, 26. 9. 1989, p. 1.

Whereas Council Directive 67/548/EEC of 27 June 1967 on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (1), as last amended by Directive 92/32/EEC (2), Council Directive 78/631/EEC of 26 June 1978 on the approximation of the laws of the Member States relating to the classification, packaging and labelling of dangerous preparations (pesticides) (3) and Council Directive 88/379/EEC of 7 June 1988 on the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations (4), as last amended by Directive 90/492/EEC (5), define and lay down a system of specific information on dangerous substances and preparations, in the form of safety data sheets, principally intended for industrial users to enable them to take the measures necessary to ensure the protection of the safety and health of workers;

Whereas Council Directive 92/58/EEC of 24 June 1992 on the minimum requirements for the provision of safety and/or health signs at work (6) establishes a system for marking containers and pipes used for dangerous substances or preparations at work;

Whereas Council Directive 82/501/EEC of 24 July 1982, on the major-accident hazards of certain industrial activities (7) has as its objective the limitation of the consequences of such accidents to man and the environment and to ensure high levels of protection against such accidents and their consequences throughout the Community;

Whereas, in order to complete the information available to workers so as to ensure an improved level of protection, it is necessary that workers and their representatives be informed about the risks which chemical agents can pose for their safety and health and about the measures necessary to reduce or eliminate those risks and that they should be in a position to check that the necessary protective measures are taken;

Whereas employers must keep abreast of new developments in technology with a view to improving the protection of workers' safety and health, and assess on a regular basis the implications for the safety and health of workers;

Whereas, although in some cases scientific knowledge may not be such that a level of exposure to a chemical agent can be established below which risks to health cease to exist. A reduction in exposure to chemical agents will none the less reduce these risks;

Whereas Commission Directive 91/322/EEC (8), establishes indicative limit values as provided for by Directive 80/1107/EEC on the protection of workers from the risks relating to chemical, physical and biological agents at work and whereas the former Directive should be maintained as part of the current framework;

Whereas technical implementing measures for the application of this Directive should be entrusted to the Commission in close cooperation with the Member States using the procedure provided in Article 13;

Whereas this Directive is a practical contribution towards creating the social dimension of the internal market,

HAS ADOPTED THIS DIRECTIVE:

SECTION I

GENERAL PROVISIONS

Article 1

Subject

1. This Directive, which is the [ ] individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC, lays down minimum requirements for the protection of workers against risks to their health and safety 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 to all chemical agents at work, without prejudice to other Community provisions under Directive 82/501/EEC, as last amended, on the major accident hazards of certain industrial activities and 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 Council Directive 90/394/EEC (9) apply where these are more favourable to the safety and health of workers at work.

(1) OJ No L 196, 16. 8. 1967, p. 1.
(2) OJ No L 154, 5. 6. 1992, p. 1.
(3) OJ No L 206, 29. 7. 1978, p. 13.
(4) OJ No L 187, 16. 7. 1988, p. 14.
(5) OJ No L 275, 5. 10. 1990, p. 35.
(6) OJ No L 245, 26. 8. 1992, p. 23.
(7) OJ No L 230, 5. 8. 1982, p. 1.
(8) OJ No L 177, 5. 7. 1991, p. 22.
(9) OJ No L 196, 26. 7. 1990, p. 1.

4. The provisions of Directive 89/391/EEC shall apply fully to the whole area referred to in paragraph 1, without prejudice to more stringent and/or specific provisions contained in this Directive.

5. The competent authorities shall regularly check if employers have taken the appropriate measures to protect the health and safety of workers at work and review the risk assessment pursuant to Article 3 (2).

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 by any work activity, whether or not produced intentionally and whether or not placed on the market;

(b) '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;

(c) 'occupational exposure level' means, unless otherwise specified, the concentration of a chemical agent at the workplace in the air within the breathing zone of a worker and includes 'limit value' and 'occupational guidance value';

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

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

(f) 'risk' means the likelihood that the potential for harm will be attained under the conditions of use and/or exposure;

(g) 'competent person' means any person who has the necessary knowledge, experience, practical ability and skills to perform the task in question;

(h) 'waste' means any chemical agent remaining after a process, or any object or material contaminated by a chemical agent, which is intended for disposal;

(i) 'health surveillance' means the assessment of an individual worker to determine the state of health of this individual.

SECTION II

PROVISIONS ADDRESSED TO EMPLOYERS

Article 3

General obligations

1. To safeguard the safety and health of workers the employer shall take the necessary measures including the assignation of specific duties to a competent person to ensure that for activities involving chemical agents:

(a) workers can perform the work assigned to them without endangering their safety and health and/or those of other workers;

(b) the operation of workplaces when workers are present takes place under the responsibility of a person in charge;

(c) work involving a special risk is entrusted only to competent staff and carried out in accordance with the instructions given;

(d) effective arrangements are made to deal with accidents and emergencies, including any relevant safety drills which are to be performed at regular intervals;

(e) all safety and health instructions are comprehensible to the workers concerned;

(f) appropriate first aid facilities are provided.

2. The employer shall be in possession of an assessment of the risks concerning safety and health drawn up in a document, hereinafter referred to as the 'safety and health document', which shall be kept up-to-date.

The safety and health document shall identify any risk at work and record in particular:

— an assessment of the risks incurred by the workers in any activity involving chemical agents, and that a competent person has carried out this assessment; where a chemical agent has been subject to a specific evaluation concerning the risks for its users as part of a process of authorization for placing on the market, the risk assessment shall take into account the results of that evaluation,

— that adequate measures will be taken to attain the aim of the Directive and in particular any precautionary measures to protect the health and safety of workers provided for in other Community legislation,

— that the design, use and maintenance of the workplace and of the equipment involving chemical agents are safe,

— that an up-to-date list has been made of the chemicals used, or intended to be used at work.

The safety and health document must be drawn up prior to the commencement of work and shall be kept up-to-date in particular if there have been major changes which could render it out-of-date.

The employer shall ensure that the workers are informed of the contents of the safety and health document whenever a major alteration at the workplace leads to a change in the document.

3. The employer shall ensure that the risk from a chemical agent to the safety and health of workers at work is eliminated or reduced in particular by eliminating the risk at source or by seeking to achieve the maximum degree of reduction of risk by collective protection measures in particular cleaner technologies and the state of art and technology, in preference to individual protection measures.

4. For certain special 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 on safety and health for other reasons, even after all technical measures have been taken, the employer shall determine, after consultation of the workers or their representatives in the undertaking or establishment, the measures necessary to reduce the duration of workers' exposure to the minimum possible and to ensure the protection of workers while they are engaged in such activities.

The employer shall ensure that these activities take place only in areas that are clearly demarcated and indicated, or that persons not specifically authorized are prevented by other means from having access to such areas.

5. The measures taken by the employer to meet the requirements of this Directive shall be consistent with the need to protect public health and the environment.

Article 4

Specific protection and prevention measures

The employer shall take measures appropriate to the nature of the risk:

— to provide suitable and safe plant and process equipment,

— to limit the quantity of a hazardous chemical agent at the workplace and to segregate incompatible chemical agents,

— to avoid, detect and combat the starting and spread of fires and explosions, and

— to prevent the occurrence of explosive and/or hazardous atmospheres.

Article 5

Communication, warning and alarm systems

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 assistance, escape and rescue operations to be launched immediately if the need arises.

Article 6

Keeping workers informed

1. Without prejudice to Article 10 of Directive 89/391/EEC workers and/or their representatives shall be provided with:

— information on chemical agents, as referred to in paragraph 9 of the Annex, in a comprehensible form and adapted to the needs of the individual worker,

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

— written information where the assessment carried out pursuant to Article 3 (2) shows it to be necessary and which is kept up-to-date.

2. The employer shall ensure that containers used for chemical agents at work are provided with safety signs or are marked with the identity and the nature of the contents and their hazards. Where a safety data sheet has not been provided at the time of supply the employer shall obtain the relevant information from the supplier or other sources, and shall not use the chemical agent until such information has been obtained and made available to workers.

SECTION III

MISCELLANEOUS PROVISIONS

Article 7

Prohibitions

1. The production, manufacture or use at work of chemical agents and work activities set out below are prohibited to the extent specified. 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.

Einecs No (1)	CAS No (2)	Name of agent	Concentration limit for exemption
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

(1) Einecs: European inventory of existing chemical substances.
(2) CAS: Chemical abstract service.

2. On application from an employer Member States may grant specific derogations from the requirements of paragraph 1 in the following circumstances:

— for the sole purpose of scientific research and testing, including analysis,

— for work activities intended to eliminate the prohibited chemical agents,

— provided that the production or use is carried out in a closed system and that the chemical agent no longer remains at the end of the process.

3. Amendments required with regard to the chemical agents and work activities already covered by this Article shall be determined and adopted, in accordance with the procedure referred to in Article 13.

Article 8

Occupational exposure levels

1. Occupational exposure levels shall be drawn up taking account of available information, including scientific and technical data in accordance with the procedure referred to in Article 13.

2. For any chemical agent for which a limit value is listed in the Annex (paragraph 10), Member States shall establish a corresponding occupational exposure level which shall not be exceeded.

3. Occupational exposure levels established as indicative limit values by Directive 91/322/EEC shall be considered as occupational guidance values for the purpose of this Directive.

4. Member States shall take into account occupational guidance values when setting occupational exposure levels on their own territories.

5. When a Member State introduces or revises an occupational exposure level for a chemical agent, on the basis of new data, it shall inform the Commission and the other Member States thereof together with the relevant scientific and technical data.

Article 9

Health surveillance

Member States shall establish arrangements to ensure that workers receive health surveillance appropriate to the safety and health risks they incur at work, in accordance with Article 14 of Directive 89/391/EEC.

Article 10

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. In particular the employer shall make arrangements to facilitate the participation of workers and/or their representatives in appraising their workplace and in the establishment of the precautions to be adopted when it is found that an occupational exposure level or biological limit value is exceeded.

Article 11

Minimum requirements for health and safety

1. A new activity involving chemical agents for the first time after the date on which this Directive is brought into effect as referred to in Article 14, must satisfy the minimum safety and health requirements laid down in the Annex.

2. An activity involving chemical agents existing on the date on which this Directive is brought into effect as referred to in Article 14, must satisfy the minimum safety and health requirements laid down in the Annex as soon as possible and at the latest five years after that date.

Article 12

Adjustments to the Annex

1. Technical adjustments to the Annex in line with:

— the adoption of Directives in the field of technical harmonization and standardization concerning chemical agents,

and/or

— technical progress, changes in international regulations or specifications and new findings concerning chemical agents,

shall be adopted in accordance with the procedure laid down in Article 13.

2. Detailed rules on technical guidance for the implementation of the provisions contained in this Directive shall be adopted in accordance with the procedure referred to in Article 13.

Article 13

Committee

1. The Commission shall be assisted by the committee created in Article 17 (1) of Directive 89/391/EEC.

2. Where reference is made to the procedure laid down in this Article the matter shall be referred to the Committee by the chairman either on his own initiative or at the request of the representative of a Member State.

The representative of the Commission shall submit to the committee a draft of the measures to be taken. The committee shall deliver its opinion on the draft within a time limit which the chairman may lay down according to the urgency of the matter. The opinion shall be delivered by the majority laid down in Article 148 (2) of the EEC Treaty in the case of decisions which the Council is required to adopt on a proposal from the Commission. The votes of the representatives of the Member States within the committee shall be weighted in the manner set out in that Article. The chairman shall not vote.

The Commission shall adopt the measures envisaged if they are in accordance with the opinion of the committee.

If the measures envisaged are not in accordance with the opinion of the committee, or if no opinion is delivered, the Commission shall, without delay, submit to the Council a proposal relating to the measures to be taken. The Council shall act by a qualified majority.

If, on the expiry of three months from the date of the referral to the Council, the Council has not acted, the proposed measures shall be adopted by the Commission.

Article 14

Revocation

1. The following Directives shall be repealed on the date this Directive comes into force:

— Directive 80/1107/EEC, as amended by Directive 88/642/EEC, on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work,

— Directive 82/605/EEC on the protection of workers from the risks related to exposure to metallic lead and its ionic compounds at work,

— Directive 88/364/EEC on the protection of workers by the banning of certain specified agents and/or certain work activities.

2. The reference in:

— Article 15 (1) of Directive 83/477/EEC and Article 1 (5) of Directive 91/382/EEC amending Directive 83/477/EEC on the protection of workers from the risks related to exposure to asbestos at work,

— Article 12 (2) of Directive 86/188 EEC on the protection of workers from the risks related to exposure to noise at work,

to the procedure set out in Article 10 of Directive 80/1107/EEC shall be construed as a reference to the procedure laid down in Article 13.

3. Any other reference in:

— Directive 83/477/EEC, as amended by Directive 91/382/EEC, on the protection of workers from the risks related to exposure to asbestos at work,

— Directive 86/188/EEC on the protection of workers from the risks related to exposure to noise at work,

— Directive 91/322/EEC on establishing indicative limit values by implementing Council Directive 80/1107/EEC on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work,

to Directive 80/1107/EEC, as amended by Directive 88/642/EEC, is obsolete.

Article 15

Final provisions

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive not later than 30 June 1996. They shall forthwith inform the Commission thereof.

2. When Member States adopt the provisions referred to in paragraph 1, these shall contain a reference to this Directive or shall be accompanied by such reference at the time of their official publication. The procedure for such reference shall be adopted by Member States.

3. The 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 Directive.

4. Member States shall report to the Commission every five years on the practical implementation of this Directive, indicating the views of employers and workers.

The Commission shall inform the European Parliament, the Council and the Economic and Social Committee thereof.

Article 16

This Directive is addressed to the Member States.

ANNEX

MINIMUM SAFETY AND HEALTH REQUIREMENTS AS REFERRED TO IN ARTICLE 11 OF THE DIRECTIVE

1. **Preliminary note:**

The obligations laid down in this Annex apply whenever required by the features of the workplace, the activity, the circumstances or a specific risk.

2. **Supervisory obligations**

2.1. *Person in charge*

A responsible and competent person who has been appointed by the employer in accordance with the national laws and/or practices must at all times be in charge of every workplace where chemical agents and workers are present.

The employer may personally assume responsibility for the workplace referred to in the first paragraph, if he has the skills and competence required for the purpose in accordance with national laws and/or practices.

2.2. *Supervision*

To ensure workers' health and safety protection during all operations undertaken, the necessary supervision must be provided by competent persons having the necessary knowledge, experience and skills for the purpose, in accordance with national laws and/or practices, having been appointed by the employer and acting on his behalf.

The employer may personally undertake the supervision referred to in the first paragraph if he has the skills and competence required for the purpose, in accordance with national laws and/or practices.

3. **Protective measures**

3.1. Measures must be taken for assessing the presence of harmful and/or potentially explosive substances in the atmosphere and for measuring the concentration of such substances.

Where required by the safety and health document monitoring devices measuring gas concentrations at specified places automatically and continuously, automatic alarms and devices to cut off power automatically from electrical installations and internal combustion engines must be provided.

Where automatic measurements are provided for, the values measured must be recorded and kept as stipulated in the health and safety document.

3.2. The employer shall ensure that any chemical agent which meets the requirements to be classified, according to the criteria in Annex VI to Directive 67/548/EEC, as a category 1 or 2 carcinogen, mutagen or chemical agent toxic to reproduction, is as far as is technically possible, eliminated or replaced by a chemical agent or process which under its conditions of use is not dangerous, or is less dangerous, to workers' health and safety, as the case may be. Where it is not technically possible to replace the chemical agent by an agent or a process which is not dangerous or is less dangerous to workers' health and safety the employer shall reduce risk, giving preference to the manufacture and use of the chemical agent in a closed system.

3.3. The employer shall ensure that exposure of workers to a chemical agent at work does not exceed the limit value set for that chemical agent using the procedure referred to in Article 8.

3.4. In cases where exposure occurs simultaneously to more than one chemical agent for which limit values have been set, the effects of exposure shall be considered as additive, unless a more precise evaluation of their combined effect is known.

3.5. The employer shall carry out such periodic measurements of chemical agents at the workplace as are necessary in particular in relation to limit values, unless by other means the employer clearly demonstrates that adequate protection has been achieved. Any measurements shall be made by a competent person, using a valid technique.

3.6. The measurements shall be carried out in such a way as to ensure that the result is representative of the exposure of the worker to the agent or agents in question.

4. **Protection from abnormal risks**

4.1. In order to protect the health and safety of workers from an incident, accident or emergency which is likely to result in abnormal conditions detrimental to the health and safety of workers, the employer shall establish procedures (action plans) which can be put into effect when any such event occurs, so that appropriate action is taken.

4.2. In case of the occurrence of such an event the employer shall immediately inform the workers thereof. Until the situation has been restored to normal and the cause of the abnormal conditions have been eliminated:

— the employer shall identify the cause without delay and 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.

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

4.4.1. Where harmful substances accumulate or may accumulate in the atmosphere appropriate measures must be taken to ensure their collection at source and removal.

Without prejudice to provisions for the protection of public health and the environment the system must be capable of dispersing such hazardous atmospheres in such a way that workers are not at risk.

4.4.2. Without prejudice to Council Directive 89/656/EEC [1], an appropriate and sufficient breathing and resuscitation equipment must be available in areas where workers may be exposed to atmospheres which are harmful to health.

In such cases, a sufficient number of workers trained to use such equipment must be present at the workplace.

The equipment must be suitably stored and maintained.

4.4.3. Where toxic gases are or may be present in the atmosphere, a protection plan detailing the protective equipment available and the preventive measures taken must be kept and made available to the competent authorities.

4.5. The employer shall ensure that information on emergency arrangements involving chemical agents is made available on request to the relevant internal and external accident and emergency services. 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 arise, at the time of an accident or emergency, including information on procedures prepared pursuant to paragraph 4.1 above.

5. **Derogation information**

5.1. When making an application for a derogation from a prohibition or restriction pursuant to Article 7 (2), an employer shall submit the following information to the competent authority:

— the quantities to be used annually,

— the activities or reactions or processes to be carried out,

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[1] OJ No L 393, 30. 12. 1989, p. 18.

— the number of workers liable to be exposed,

— the precautions envisaged to protect the health and safety of workers concerned,

— the technical and organizational measures to be taken to prevent the exposure of workers.

6. **Safety equipment maintenance**

Adequate safety equipment must be maintained ready for use and in good working order at all times.

Maintenance must be undertaken with due regard to operations.

7. **Special health surveillance measures**

The employer shall ensure that any worker exposed to:

— a chemical known to cause sensitization,

— the following chemical agents:

arsenic and its compounds, beryllium, cadmium and its compounds, carbon disulphide, chromates (Cr^{6+}), cobalt, lead and its compounds, mercury and its compounds, organophosphoric esters, tetrachloroethane

shall, if he so wishes, undergo health surveillance.

Where biological monitoring is carried out it shall form part of health surveillance. Where indicated by the nature of the risk, biological monitoring shall be used to reveal pre-clinical effects on the health status of workers in order to permit intervention to prevent clinical deterioration. The result of biological monitoring shall not be used to discriminate against the worker.

Biological limit values and related requirements are to be observed as part of health surveillance.

Where, as a result of health surveillance, a worker is found to be suffering from an abnormality which is considered to be the result of exposure to a chemical agent, the employer shall:

— review the safety and health document, prepared pursuant to Article 3,

— take into account the advice of the doctor or medical authority and implement specific measures to eliminate or reduce exposure, including the possibility of assigning the worker to alternative work with a lesser risk of exposure,

— 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 medical authority may propose that exposed persons undergo a medical examination.

The doctor or medical authority shall inform the worker of the results of health surveillance which relate to him personally, including information and advice regarding any health surveillance which the worker should undergo following the end of exposure.

8. **Record keeping**

8.1. The employer shall ensure that the safety and health document prepared pursuant to Article 3 contains sufficient detail about the information on which it is based and the risk assessment methods used for the competent authority to evaluate the assessment and the measures taken to eliminate or reduce any risk.

The safety and health document shall be kept for at least five years from the date on which it is made or revised and shall be made available to workers or their representatives and to the competent authority on request.

8.2. Member States shall establish arrangements to ensure that for each worker who undergoes health surveillance in accordance with the requirements of Article 9 an individual health record is made and kept up-to-date. The health record shall contain a summary of the results of health surveillance carried out and of any monitoring data representative of the exposure of the individual. It shall be kept, taking into account medical confidentiality, in accordance with national laws and practice.

The health records shall be retained for at least 40 years from the date of the last entry. A copy shall be supplied to the competent medical authority on request. In accordance with national laws and practice the individual worker shall, at his request, have access to the health record relating to him personally.

In the case where an undertaking ceases to trade, the health records shall be made available to the competent authority, in accordance with national laws and practice.

9. **Information on chemical agents**

9.1. The information on chemical agents to be provided to the worker shall include the following:

— the identity of the agent or agents to which exposure may occur,

— risks to health and safety arising from the work activity or process or arising from possible exposure at the workplace,

— the precautions which the employer has undertaken in order to reduce risks, including information on containment facilities, safe storage and handling, transport and waste disposal within the enterprise,

— the precautions which the worker must take in order to reduce exposure, including use of personal protective equipment,

— relevant occupational exposure levels,

— the consequence of any foreseeable abnormal situation including overexposure and action to be taken,

— prepared action plans,

— first aid measures,

— fire-fighting methods,

— action taken, or to be taken, in the case of a spillage or an incident, accident or emergency involving a chemical agent,

— any restrictions on use of agents or limitation of access to designated areas, including indications on how such areas may be recognized,

— up-to-date information giving the results of measurements of exposure.

9.2. The employer shall ensure that containers and pipes for chemical agents at work are:

— in the case of chemical agents covered by the definition of dangerous substances or preparations in accordance with Directives 67/548/EEC and 88/379/EEC as amended, provided with safety signs in accordance with Directive 92/58/EEC. Information shall also be provided either by labelling on the container, or by other suitable means, on the contents and their hazards, the identity, and the risk and safety phrases in accordance with the criteria laid down in Annex VI to Directives 67/548/EEC and 88/379/EEC,

— in the case of other chemical agents, marked or otherwise provided with an indication of the nature of the contents.

9.3. The employer shall ensure that containers used for chemical agents which are labelled at the time of supply to the employer shall retain the label at the workplace while any hazard from the chemical agent remains.

9.4. The employer shall make available to workers, or workers' representatives, on request, any safety data sheet provided by the supplier in accordance with Article 10 of Directive 88/379/EEC and Article 27 of Directive 92/32/EEC or, where these Directives do not apply, with a data sheet of similar format and content containing relevant data.

9.5. The competent authority shall ensure that employers may obtain information on chemical agents in order to protect the safety and health of workers at work.

10. **Limit values and biological limit values**

10.1. *Limit values* (1) *for occupational exposure*

Einecs No (1)	CAS No (2)	Name of agent	Limit value (6)	
			mg/m³ (4)	ppm (5)
		Metallic lead and its ionic compounds	0,15	—

(1) Einecs: European inventory of existing chemical substances.
(2) CAS: Chemical abstract service number.
(3) Measured or calculated in relation to a reference period of eight hours unless otherwise stated.
(4) mg/m³: Milligrams per cubic metre.
(5) ppm: Parts per million by volume in air (ml/m³).
(6) At 20 °C and 101,3 KPa (760 mm mercury pressure).

10.2. *Biological limit values (Lead)*

Biological monitoring shall, apart form the exception mentioned in point 11 (b), include measuring the blood-lead level (PbB); the biological limit value is:

— 70 µg Pb/100 ml blood.

The method to be used for the analysis is atomic absorption spectroscopy.

11. **Special measures for lead**

(a) The biological monitoring may also include one or more of the following biological indicators:

— delta aminolaevulinic acid in urine (ALAU),

— zinc protoporphyrin (ZPP),

— delta aminolaevulinic acid dehydratase in blood (ALAD).

The related methods to be used for the analysis of samples are:

ALAU:	Davis or equivalent method
ZPP:	Haematofluorimetry or equivalent method
ALAD:	European standardized method or equivalent method

(b) The lead in blood (PbB) measurement may be replaced by that of ALAU when dealing with workers who have been subjected for a period of less than one month to risks of high exposure. In this case the following limit values shall be applied for ALAU:

— 20 mg/g creatinine

(c) Biological monitoring shall be carried out at least every six months; this frequency may be reduced to once a year where at the same time:

— the results of the measurements for individuals or for groups of workers have shown, on the previous two consecutive occasions on which monitoring was carried out, a lead-in-air concentration higher than 0,075 mg/m³ and lower than 0,1 mg/m³,

— the PbB level of any individual worker does not exceed 50 µg Pb/100 ml blood.