

**DRAFT**

**Health and Safety Authority**

2011  
Code of Practice  
for the  
Safety, Health and Welfare at Work  
(Chemical Agents) Regulations 2001  
(S.I. No. 619 of 2001)

Public Consultation

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## Foreword

The Health and Safety Authority, with the consent of ....., Minister of State at the Department of Enterprise, Trade and Employment, and following public consultation, publishes this Code of Practice entitled “2011 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001)” in accordance with section 60 of the Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005).

This Code of Practice provides practical guidance as to the observance of Regulations 4(1)(e), 4(5)(d), 6(1)(c), (d) and (e) and 9 (1) (b) of the Safety, Health and Welfare at Work (Chemicals Agents) Regulations 2001, in relation to occupational exposure limit values (OELVs) for a number of chemical agents as listed in Schedule 1 to the Code, having regard to the provisions of the Safety, Health and Welfare at Work Act 2005.

This Code of Practice comes into operation on ..... 2011 and from that date it replaces the “2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001)” which was issued in accordance with the Safety, Health and Welfare at Work Act 2005.

Schedule 1 to this Code of Practice stipulates the occupational exposure limit values (OELVs) which are currently legally binding under the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001).

Schedule 2, Part 1, to this Code of Practice lists the chemical agents for which the Occupational Exposure Limit Value (OELV) has changed compared to the 2010 Code of Practice (and which are now included in Schedule 1 to the 2011 Code of Practice).

Schedule 2, Part 2, to this Code of Practice shows the Indicative Occupational Exposure Limit Values (IOELVs) listed in Commission Directive 2009/161/EU establishing a third list of indicative occupational exposure limit values in the implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Schedule 2, Part 3, to this Code of Practice lists the Chemical agents for which the Occupational Exposure Limit Value (OELV) has not changed from that listed in the 2010 Code of Practice but for which the notation contained in the notes column in Schedule 1 to the 2011 Code of Practice has been revised.

Please note that Commission Directive 2009/161/EU of 17 December 2009 establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC (OJ No. L338, 19.12.2009, p.87) is required to be transposed into national legislation by Member States by 18 December 2011 at the latest. For ease of reference, this list is shown in Part 2 of

Schedule 2 to this Code of Practice. The list has been included in Schedule 1 to this Code of Practice.

Schedule 3 to this Code of Practice provides a list of substances which are under review by the Health and Safety Authority in the period 2011 to 2013.

As part of the revision of the Code of Practice, a CAS Number Index has been added for all substances included in the Code of Practice and the Index is set out in Schedule 4.

Substances which have been assigned an indicative occupational exposure limit value (IOELV) under Commission Directives 2000/39/EC and 2006/15/EC (the first and second IOELV Directives) are indicated in the notes column in Schedule 1 to the Code of Practice.

Notice of the publication of this Code of Practice, and the withdrawal of the 2010 Code of Practice, was published in the *Iris Oifigiúil* of ..... 2011.

As regards the use of Codes of Practice in criminal proceedings, section 61 of the 2005 Act provides as follows -

“61.—(1) Where in proceedings for an offence under this Act relating to an alleged contravention of any requirement or prohibition imposed by or under a relevant statutory provision being a provision for which a code of practice had been published or approved by the Authority under *section 60* at the time of the alleged contravention, subsection (2) shall have effect with respect to that code of practice in relation to those proceedings.

(2) (a) Where a code of practice referred to in subsection (1) appears to the court to give practical guidance as to the observance of the requirement or prohibition alleged to have been contravened; the code of practice shall be admissible in evidence.

(b) Where it is proved that any act or omission of the defendant alleged to constitute the contravention—

(i) is a failure to observe a code of practice referred to in subsection (1), or

(ii) is a compliance with that code of practice,

then such failure or compliance is admissible in evidence.

(3) A document bearing the seal of the Authority and purporting to be a code of practice or part of a code of practice published or approved of by the Authority under this section shall be admissible as evidence in any proceedings under this Act.”

### **Periodic revision of the Code of Practice**

A revision of the occupational exposure limit values listed in Schedule 1, to reflect current knowledge concerning the health hazards of the listed chemical agents, will be undertaken by the Health and Safety Authority on a biennial basis, where appropriate, in consultation with the statutory Technical and Scientific Advisory Committee. Schedule 3 to this Code of Practice provides a list of chemical agents which are under review by various international groups. This Schedule therefore serves to highlight the possibility of a change occurring to these substances, including for example the introduction of an occupational exposure limit value or a change to an existing occupational exposure limit value in 2011.

As the Code of Practice is updated biennially, specific attention should be paid to those substances listed in Schedule 3, during the announcement period. Comments concerning any of the limit values proposed may be made in writing to the Chemical Policy Services Section of the Health and Safety Authority at Hebron House, Hebron Road, Kilkenny or its headquarters, Metropolitan Building, James Joyce Street, Dublin 1, Locall: 1890 289 389 or e-mail [wcu@hsa.ie](mailto:wcu@hsa.ie).

**Robert Roe**  
**Assistant Chief Executive Officer and Secretary to the Board**

# 1. Introduction

Occupational exposure limit values (**OELVs**) provide a basis for ensuring that exposure to airborne contaminants in the workplace are controlled in such a way as to prevent adverse health effects. Existing information has been used to establish limit values for exposures which, for the majority of chemicals listed, even when repeated regularly throughout a working lifetime, are not expected to result in adverse effects on the health of exposed workers. Exceptions to this may be (1) certain risk groups such as employees known to be sensitised or (2) certain chemicals listed in the Code of Practice as carcinogenic, mutagenic or as chemicals causing respiratory sensitisation, where identification of a safe level of exposure is extremely difficult.

An OELV for a given chemical represents the maximum exposure to the chemical in workplace air, which is considered consistent with this objective. In practice, exposure levels should be maintained well below the OELV and should always be as low as reasonably achievable. This is particularly important for carcinogens, mutagens and substances causing sensitisation (occupational asthma or allergic contact dermatitis). **Schedule 1** to this Code of Practice stipulates the occupational exposure limit values for around 700 substances. Within this Schedule, carcinogens are identified by the notation “**Carc1A/1B**”, mutagens by “**Muta1A/B**” reproductive toxins by “**Repr1A/1B**” and sensitizers as “**Sen**”.

“Occupational Exposure Limit Value”, as defined in the Definitions/Glossary, is the term used in this Code of Practice to describe an exposure standard for a chemical in workplace air, with reference to either an **8-hour reference period** or a **15-minute reference period**. The exposure limit values are based on time-weighted average (**TWA**) concentrations of airborne substances. These terms are also defined in the Glossary. Terms used by other regulatory bodies throughout the world to describe exposure standards include Threshold Limit Value (**TLV**), Occupational Exposure Standard (**OES**), Workplace Exposure Limit (**WEL**) and Short Term Exposure Limit (**STEL**). These terms may appear in Safety Data Sheets (SDSs) or other information on chemicals.

It should be noted that exposure to **radioactive material is excluded** from the scope of this Code of Practice. The Radiological Protection Institute of Ireland is the national organisation with regulatory, monitoring and advisory responsibilities in matters pertaining to such materials.

This Code of Practice, in conjunction with the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001), inter alia, transposes the provisions of Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work (O.J. No. L 131, 5.5.98), the provisions of Commission Directive 2006/15/EC establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and

2000/39/EC (O.J. No. L 38, 9.2.2006). The provisions of Commission Directive 2009/161/EU of 17 December 2009 establishing a third list of indicative occupational exposure limit values (OJ No. L338, 19.12.2009, p.87) are incorporated into this Code of Practice.

There is no direct link between the health hazard categories identified in the legislation on the classification, packaging and labelling of dangerous substances and preparations/mixtures (see Table 1) and the OELVs in this Code of Practice. In general, however, chemicals classified as very toxic, toxic, harmful, carcinogenic, mutagenic, or as respiratory sensitizers, are more likely to have an OELV assigned to them than chemicals which are not classified as hazardous for health, particularly if they have been classified as hazardous by inhalation or in contact with skin. Within **Schedule 1**, five groups of substances are identified as having the potential to cause particular and significant reactions following exposure. These groups may be identified by certain notations, as follows:-

- Substances, which have the capacity to penetrate the skin and be absorbed into the body, are likely to have the skin (**Sk**) notation.
- Chemicals classified as carcinogenic (**Carc1A/1B**) and mutagenic (**Muta1A/B**) chemicals, sensitizers (**Sen**) and chemicals which are toxic for reproduction (**Repr1A/1B**) are specifically identified as such in the notes column of **Schedule 1**, because of the particularly serious nature of these effects.

For these substances, in particular, where an OELV exists, exposure must be maintained well below that OELV, and should always be as low as reasonably achievable. In some cases no OELV is assigned to such substances because of the difficulty in identifying a safe level of exposure, and for these substances exposure levels should also be as low as reasonably achievable.

Classification, packaging and labelling legislation is a hazard-based system and the particular hazards of a chemical are identified by standardised test procedures. These hazards must be clearly identified on the labels of containers and in the associated Safety Data Sheet (SDS), along with advice on protective measures to be taken. If exposure to a hazardous chemical is prevented or minimised, e.g. by maintaining the exposure level below the OELV then the risk to health will also be prevented or minimised. OELVs are thus an important part of chemical risk assessments.

While this Code of Practice is based on the requirements of the Safety, Health and Welfare (Chemical Agents) Regulations 2001 and Directive 98/24/EC, it is also worth noting other relevant chemical legislation such as REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals, Regulation (EC) No. 1907/2006) and Classification, Labelling and Packaging (CLP) Regulation ((EC) No. 1272/2008) and their related amendments. REACH is based on the principle that industry shall ensure that

chemicals placed on the European market do not adversely affect human health and the environment. One requirement is that industry complete hazard assessments and put adequate controls in place. The hazard assessments comprise of the following steps:

- evaluation of non human and human information,
- classification and labelling, and
- the calculation of derived no effect levels (DNEL(s)).

Where the quantity of the material manufactured or imported is greater than 10 tonnes per annum, the manufacturers and importers are required to calculate DNEL(s) as part of the Chemical Safety Assessment (CSA) for chemical(s) used. The DNEL(s) will be published in the manufacturer's Chemical Safety Report and included in an extended Safety Data Sheet (SDS). REACH specifies that it may be necessary to identify different DNELs for each relevant human exposure scenario and possibly for certain vulnerable sub-populations and for different routes of exposure and different exposure durations.

An exposure limit value (IOEL, BOEL or OEL) can be used as a DNEL in limited cases where the scientific background for setting the exposure limit can be evaluated and the potential exposure route and duration are similar. If, however, the registrant of a substance has obtained new scientific information then the registrant should develop a DNEL and not apply the exposure limit. For further information see the European Chemical Agency (ECHA) guidance on hazard assessment at [www.echa.europa.eu](http://www.echa.europa.eu)

The CLP Regulation will replace and eventually repeal the two existing Classification, Packaging and Labelling (CPL) Regulations which currently transpose Directives 67/548/EEC and 1999/45/EC into Ireland.

## 2. Definitions/Glossary

**“Chemical Agent”** as defined in the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001), 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.

**“Hazardous Chemical Agent”**, as defined in S.I. No. 619 of 2001 means:

(i) any chemical agent which meets the criteria for classification as a dangerous substance according to the criteria in Annex VI to Directive 67/548/EEC<sup>1</sup>, whether or not that

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<sup>1</sup> O.J. No. 196, 16.8.1967, p. 1



substance is classified under that Directive, other than those substances which only meet the criteria for classification as dangerous for the environment;

(ii) any chemical agent which meets the criteria for classification as a dangerous preparation within the meaning of Directive 99/45/EC<sup>2</sup>, whether or not that preparation is classified under that Directive, other than those preparations which only meet the criteria for classification as dangerous for the environment;

(iii) any chemical agent which, whilst not meeting the criteria for classification as dangerous in accordance with (i) and (ii), may, because of its physiochemical, 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 employees, including any chemical agent assigned an occupational exposure limit value in this Code of Practice, under the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001.

#### **Note for Information**

“Hazardous substances and mixtures and specification of hazard classes” are defined further in Article 3 of Regulation (EC) No 1272/2008<sup>3</sup> 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. These will replace the criteria in Directives 67/548/EEC and 1999/45/EC.

“**Occupational Exposure Limit Value**” (OELV) is defined in S.I. No. 619 of 2001 as meaning, 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, as approved by the Authority.

**For the purposes of this Code of Practice, “Occupational Exposure Limit Value” (OELV), as approved by the Health and Safety Authority, means the maximum permissible concentration of a chemical agent in the air at the workplace to which workers may be exposed, in relation to an 8 hour or a 15 minute reference period, as set out this Code. The concentration of the chemical agent in air is expressed as parts per million (ppm), milligrams per cubic metre (mg/m<sup>3</sup>), fibres per milliliter (fibres/ml) or fibres per cubic centimeter (fibres/cm<sup>3</sup>) as appropriate.**

“**8 hour reference period**” relates to the procedure whereby the occupational exposures in any 24 hour period are treated as equivalent to a single uniform exposure for 8 hours (the 8 hour time-weighted average (TWA) exposure). The TWA may be expressed mathematically by:

$$(C_1 T_1 + C_2 T_2 + \dots + C_n T_n) / 8,$$

<sup>2</sup> O.J. No. L 200, 30.7.1999, p. 1

<sup>3</sup> O.J. No. 353, 31.12.2008, p.1

where  $C_1$  ..... $C_n$  are the occupational exposures and  $T_1$  ....  $T_n$  are the associated exposure times in hours in any 24 hour period.

**“15 minute reference period”** means the short term exposure reference period and is the sampling period used for assessing compliance with the associated short term exposure limit (STEL).

**TLV** - Threshold Limit Value, defined as the time-weighted average concentration of airborne substances to which nearly all workers may be repeatedly exposed, without adverse effect. (U.S.A., American Conference of Governmental Industrial Hygienists (ACGIH) and European Union (EU)).

**TWA** - Time-Weighted Average, defined as the time weighted average concentration for a conventional 8 hour day/ 40 hour week. (U.S.A., American Conference of Governmental Industrial Hygienists (ACGIH) and European Union (EU)).

**STEL** - Short Term Exposure Limit, defined as the concentration to which workers can be exposed for short periods of time, usually 15 minutes, 4 times per day, without suffering adverse effects and are set to help prevent effects such as eye irritation which may occur following exposure for a few minutes. (*Note: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit value should be used*) (U.S.A., American Conference of Governmental Industrial Hygienists (ACGIH) and European Union (EU)).

**WEL** - are workplace occupational exposure limits (OELs) set under the UK Control of Substances Hazardous to Health Regulations 2002. WELs are concentrations of hazardous substances in the air, averaged over a specified period of time referred to as a time-weighted average (TWA). Two time periods are used: long term (8 hours) and short term (15 minutes). (EH40 Workplace Exposure Limits, Health and Safety Executive, UK).

**MAK** - Maximum Allowable Concentration (German standard).

**IOELV** – Indicative Occupational Exposure Limit Values are health based limits set under the Chemical Agents Directive 98/24/EC. The European Commission is advised on limits by its Scientific Committee on Occupational Exposure Limits (SCOEL). SCOEL evaluates the scientific information available on hazardous substances and makes recommendations for the establishment of an IOELV. IOELVs are listed in Directives, which Member States are obliged to implement by introducing national limits for the substances.

**BOELV** - Binding Occupational Exposure Limit Values are transposed from the relevant EU Directives through a range of national legislation comprising the Safety, Health and Welfare at Work (Asbestos) Regulations 2006 (S.I. No. 386 of 2006), the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001) and the Safety, Health and Welfare at Work (Carcinogens) Regulations 2001 (S.I. No. 78 of 2001). BOELVs take account of socio-economic and technical feasibility factors as well

as the factors considered when establishing IOELVs. For any chemical for which a BOELV is established at EU level, Member States must establish a corresponding BOELV, which can be stricter but cannot exceed the Community value.

**DNEL** - The Derived No-Effect Level is defined as the level of exposure above which humans should not be exposed (REACH, Regulation (EC) No. 1907/2006).

**Respirable Fraction** - Particles of inhalable aerosols that are inhaled and are not captured in the upper airways (nasopharyngeal and tracheobronchial regions) but penetrate to the pulmonary region containing the respiratory bronchioles, alveolar ducts and alveolar sacs are considered to comprise of the respirable fraction of the aerosol.

**Inhalable Fraction and Vapour (IFV)** - The Inhalable Fraction and Vapour note is used when a material exerts sufficient vapour pressure such that it may be present in both particle and vapour phases.

**Carc1A-** Substances known to have carcinogenic potential for humans, classification is largely based on human evidence to which the Classification, Labelling and Packaging Regulations (EC) No 1272/2008 apply (designated as Category 1 carcinogens) in the Safety, Health and Welfare at Work (Carcinogens) Regulations 2001 (S.I. No. 78 of 2001) apply).

**Carc1B-** Substances presumed to have carcinogenic potential for humans; classification is largely based on animal evidence to which Classification, Labelling and Packaging Regulations (EC) No 1272/2008 apply (designated as Category 2 carcinogens in the Safety, Health and Welfare at Work (Carcinogens) Regulations 2001 (S.I. No. 78 of 2001) apply).

**Muta 1A-** Substances which are known to induce heritable mutations in the germ cells of humans, based on positive evidence from human studies, to which the Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of substances and mixtures apply (designated as Category 1 mutagens, to which the Safety, Health and Welfare at Work (Carcinogens) Regulations 2001 (S.I. No. 78 of 2001) apply).

**Muta 1B-** Substances which should be regarded as if they induce heritable mutations in the germ cells of humans, based on evidence from mutagenicity tests in mammals or humans, to which the Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of substances and mixtures apply (designated as Category 2 mutagens, to which the Safety, Health and Welfare at Work (Carcinogens) Regulations 2001 (S.I. No. 78 of 2001) apply).

**Repr 1A** – Substances which are known human reproductive toxicants, largely based on evidence on humans to which the Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of substances and mixtures apply

**Repr 1B** – Substances which are presumed human reproductive toxicants, largely based on data from animal studies, to which the Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of substances and mixtures apply

**BLV** – Biological Limit Value, as defined in the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001), means the limit of the concentration in the appropriate medium of the relevant agent, its metabolite or an indicator of effect.

**Sk** - Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body.

**Asphx** - Gaseous chemical substances which may not produce significant physiological effects in the exposed employee, but when present in high concentrations will act as simple asphyxiants.

**Sen** - In the workplace respiratory or dermal exposures to sensitising agents may occur. Sensitizers may evoke respiratory or dermal reactions, e.g. asthma, rhinitis and allergic contact dermatitis. The notation does not distinguish between respiratory or dermal sensitisation. Chemical agents that are sensitizers present special problems in the workplace. Should an employee become sensitised, subsequent exposure may cause intense responses, even at low exposure concentrations well below the OELV. Exposure should be eliminated or significantly reduced through control measures such as engineering and process controls and use of PPE. The absence of a SEN note does not signify that the chemical agent lacks the ability to produce a sensitisation but may reflect the lack of, or inconclusiveness of, scientific evidence.

**Fibre** – A respirable fibre is defined as having a length of  $>5\mu\text{m}$ , with a length:width ratio of  $\geq 3:1$ , as determined by the membrane filter method, using phase-contrast illumination.

## 3. Calculations

### 3.1 CONVERSION OF UNITS OF CONCENTRATION (ppm and mg/m<sup>3</sup>)

Concentrations of substances in workplace air can sometimes be expressed in different units. For dusts, fumes and aerosols the units are normally mg/m<sup>3</sup> (except for fibres for which fibres/millilitre or fibres/cm<sup>3</sup> is used). However, gases and vapours tend to be expressed in parts per million of volume (ppm) although the two different units are in common use (mg/m<sup>3</sup> and ppm) and the Occupational Exposure Limit Value will have a different value depending on which unit is chosen.

It is possible to convert from ppm to mg/m<sup>3</sup> and vice versa, but the conversion factor differs from substance to substance and depends on its molecular weight. A formula to allow exact conversions from mg/m<sup>3</sup> to ppm takes the form:

$$\text{ppm} = \frac{\text{mg/m}^3 \times \text{Molar Volume}}{\text{Molecular Weight}}$$

The Molar Volume varies with temperature, but at 25°C (the temperature usually used for OELVs) the formula becomes:

$$\text{ppm} = \frac{\text{mg/m}^3 \times 24.45}{\text{Molecular Weight}}$$

By way of example, 10 mg/m<sup>3</sup> of hydrogen sulphide (molecular weight 34) at 25 °C is equivalent to

$$\frac{10 \times 24.45}{34} = 7.2 \text{ ppm}$$

Such conversions are usually rounded off to two significant figures for values below 100 and to three significant figures for values above 100.

### 3.2 CALCULATIONS FOR MIXTURES

When two or more hazardous substances, which act upon the same target organ, are present, their combined effect, rather than that of either individually, should be taken into account. In the absence of information to the contrary, the effects of the different hazards should be considered as **additive**. That is, if the sum of the following fractions,

$$C_1 / \text{OELV}_1 + C_2 / \text{OELV}_2 + C_3 / \text{OELV}_3 + \dots \dots \dots C_n / \text{OELV}_n$$

exceeds 1.0, then the occupational exposure limit of the mixture should be considered as being exceeded. C<sub>1</sub> indicates the observed atmospheric concentration of substance 1, and OELV<sub>1</sub>, its corresponding occupational exposure limit value.

**Example - Mixtures/Additive Effect**

Workplace air contains 400 ppm of acetone (OELV, 500 ppm), 150 ppm of methyl isopropyl ketone (OELV, 200 ppm) and 100 ppm of methyl ethyl ketone (OELV, 200 ppm).

Atmospheric concentration of mixture = 400 + 150 + 100 = 650 ppm of mixture.

$$\begin{aligned} & C_1/OEL_1 + C_2/OEL_2 + C_3/OEL_3 \\ & = 400/500 + 150/200 + 100/200 \\ & = 0.8 + 0.75 + 0.5 \\ & = 2.05 \end{aligned}$$

As the sum exceeds 1.0, the combined Occupational Exposure Limit Value based on an additive effect is exceeded.

Exceptions to the above rule may be made when there is good reason to believe that the principal effects of the different harmful substances are not in fact additive but **independent**, as when purely local effects on different organs of the body are produced by the various components of the mixture. In such cases the occupational exposure limit value for the mixture is exceeded only when at least one member of the series ( $C_1/OELV_1$  or  $C_2/OELV_2$  etc.) itself has a value exceeding unity.

**Synergistic effects**, when substances combine to give a greater effect than expected from simple linear addition, may occur with some combinations of atmospheric contaminants; such cases at present must be determined individually. For example, carbon tetrachloride and alcohol together are more toxic to the liver than expected from the sum of the two individual toxic effects.

## 4. Further Information

1. “Guidelines to the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001”, Health and Safety Authority.
2. “Short Guide to the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001”, Health and Safety Authority.
3. “Risk Assessment of Chemical Hazards”, Health and Safety Authority.
4. “Threshold Limit Values for Chemical Substances and Physical Agents, American Conference of Governmental Industrial Hygienists (ACGIH)”.
5. “EH40 Workplace Exposure Limits”, Health and Safety Executive, London.
6. “Patty’s Industrial Hygiene and Toxicology”, Volumes I-III.
7. Radiological Protection Institute of Ireland, 119, Clonskeagh Road, Dublin 14.

**SCHEDULE 1**  
**List of Chemical Agents and Occupational Exposure Limit Values (OELVs)**

Substance	EINECS No.	CAS No.	Occupational Exposure Limit Value (8-hour reference period)		Occupational Exposure Limit Value (15-minute reference period)		
			ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	Notes
Acetaldehyde	200-836-8	75-07-0	25	45	25	45	-
Acetic acid	200-580-7	64-19-7	10	25	15	37	IOELV
Acetic anhydride	203-564-8	108-24-7	0.5	2.5	2	10	-
Acetone	200-662-2	67-64-1	500	1210	-	-	IOELV
Acetonitrile	200-835-2	75-05-8	40	70	-	-	Sk, IOELV
Acetophenone	202-708-7	98-86-2	10	49	-	-	-
Acetylene	200-816-9	74-86-2	-	-	-	-	Asphx
Acetylene Dichloride	208-750-2	540-59-0	200	790	250	1000	-
Acetylene Tetrabromide, see 1,1,1,2-Tetrabromoethane							
<i>o</i> -Acetylsalicylic acid, ( <i>Aspirin</i> )	200-064-1	50-78-2	-	5	-	-	-
Acrolein	203-453-4	107-02-8	0.1	0.25	0.3	0.8	-
Acrylaldehyde, See Acrolein							
Acrylamide	201-173-7	79-06-1	-	0.03	-	-	Sk, Carc1B, Muta1B
Acrylic acid	201-177-9	79-10-7	2	6	-	-	-
Acrylonitrile	203-466-5	107-13-1	2	4.5	-	-	Sk, Carc1B
Adipic acid	204-673-3	124-04-9	-	5	-	-	-
Aldrin (ISO)	206-215-8	309-00-2	-	0.05 (IFV)	-	0.75	Sk
Aliphatic hydrocarbon gases							
Alkanes (C1-C4)							
Butane	203-448-7	106-97-8	1000	-	-	-	-
Ethane	200-814-8	74-84-0	1000	-	-	-	Asphx
Methane	200-812-7	74-82-8	1000	-	-	-	Asphx
Propane	200-827-9	74-98-6	1000	-	-	-	Asphx
Allyl alcohol	203-470-7	107-18-6	2	4.8	5	12.1	Sk, IOELV
Allyl chloride	203-457-6	107-05-1	1	3	2	6	-
Allyl 2,3-epoxypropyl ether	203-442-4	106-92-3	5	22	10	44	-
Allyl glycidyl ether (AGE), see Allyl 2,3-epoxypropyl ether							
Allyl propyl disulphide	218-550-7	2179-59-1	0.5	-	-	-	-
Aluminium alkyl compounds	-	-	-	2	-	-	-
Aluminium metal;	231-072-3	7429-90-5	-	1 (R)	-	-	-
			-		-	-	-
			-		-	-	-
Aluminium oxides; total inhalable dust	215-691-6	1344-28-1	-	10	-	-	-
respirable dust			-	4	-	-	-
Aluminium salts, soluble	-	-	-	2	-	-	-
Aminodimethylbenzene, see Xylidine							
4-Aminodiphenyl	202-177-1	92-67-1	-	-	-	-	Sk, Carc1A
2-Aminoethanol	205-483-3	141-43-5	1	2.5	3	7.6	Sk, IOELV
2-Aminopyridine	207-988-4	504-29-0	0.5	2	2	8	-
3-Amino-1,2,4 Triazole, ( <i>Amitrole</i> )	200-521-5	61-82-5	-	0.2	-	-	-
Ammonia, anhydrous	231-635-3	7664-41-	20	14	50	36	IOELV



		7						
Ammonium chloride, fume	235-186-4	12125-02-9	-	10	-	20	-	
Ammonium Perfluorooctanoate	223-320-4	3825-26-1	-	0.01	-	-	-	Sk
Ammonium sulphamidate	231-871-7	7773-06-0	-	10	-	20	-	
<b>Substance</b>			<b>Occupational Exposure Limit Value (8-hour reference period)</b>			<b>Occupational Exposure Limit Value (15-minute reference period)</b>		
	<b>EINECS No.</b>	<b>CAS No.</b>	<b>ppm</b>	<b>mg/ m<sup>3</sup></b>	<b>ppm</b>	<b>mg/m<sup>3</sup></b>	<b>Notes</b>	
n-Amyl acetate, see Pentyl acetate								
Sec-Amyl acetate, see 1-Methyl butyl acetate								
Tert-Amyl acetate	211-047-3	625-16-1	50	270	100	540	IOELV	
Aniline	200-539-3	62-53-3	1	3.8	-	-	Sk	
o-Anisidine	201-963-1	90-04-0	0.1	0.5	-	-	Sk, Carc1B	
p-Anisidine	203-254-2	104-94-9	0.1	0.5	-	-	Sk	
Antimony & compounds (as Sb)	231-146-5	7440-36-0	-	0.5	-	-	-	
Araldite PT 810, see Triglycidyl isocyanurate, (TGIC)								
Argon	231-147-0	7440-37-1	-	-	-	-	Asphx	
Arsenic & compounds except arsine (as As)	231-148-6	7440-38-2	-	0.01	-	-	Carc1A	
Arsine	232-066-3	7784-42-1	0.005	0.02	-	-	-	
Asbestos,(all types of asbestos fibre, as listed in Directive 2003/18/EC and implemented by S.I. No. 386 Of 2006) Crocidolite Amosite Chrysotile Actinolite Anthophyllite Tremolite		2001-28-4 12172-73-5 12001-29-5 77536-66-4 77536-67-5 77536-68-6		0.1 fibres/cm <sup>3</sup> of air 0.1 fibres/cm <sup>3</sup> of air 0.1 fibres/cm <sup>3</sup> of air 0.1 fibres/cm <sup>3</sup> of air 0.1 fibres/cm <sup>3</sup> of air 0.1 fibres/cm <sup>3</sup> of air			BOELV,Carc1A BOELV,Carc1A BOELV,Carc1A BOELV,Carc1A BOELV,Carc1A BOELV,Carc1A	
Asphalt (Bitumen), petroleum fumes, ( <i>inhalable fraction</i> )	232-490-9	8052-42-4	-	0.5	-	10	-	
Aspirin, see o-Acetylsalicylic acid								
Atrazine (ISO)	217-617-8	1912-24-9	-	10	-	-	-	
Azinphos-methyl (ISO), see Guthion								
Aziridine, see Ethylenimine								
Azodicarbonamide (C, C'-azodi(formamide))	204-650-8	123-77-3	-	1	-	3	Sen	
Barium compounds, (soluble compounds as Ba)	231-149-1	7440-39-3	-	0.5	-	-	IOELV	
Barium sulphate, respirable dust	231-784-4	7727-43-7	-	2	-	-	-	
Benomyl (ISO)	241-775-7	17804-35-2	-	10	-	15	-	
Benz[α]anthracene	200-280-6	56-55-3	-	-	-	-	Carc1B	
Benzene	200-753-7	71-43-2	1	3	-	-	BOELV, Sk, Carc1A	
Benzenethiol	203-635-3	108-98-5	0.5	2	-	-	Sk	
Benzene-1,2,4-tricarboxylic acid								

1,2-anhydride, see Trimellitic anhydride							
Benzidene	202-199-1	92-87-5	-	-	-	-	Sk, Carc1A
Benzo[ $\beta$ ]fluoranthene	205-911-9	205-99-2	-	-	-	-	Carc1B
Benzo[ $\alpha$ ]pyrene	200-028-5	50-32-8	-	-	-	-	Carc1B, Muta1B, Repr1B
p-Benzoquinone, see Quinone							
Benzoyl peroxide, see Dibenzoyl peroxide							
Benzyl butyl phthalate, see Butyl benzyl phthalate							
Benzyl chloride	202-853-6	100-44-7	0.5	2.6	1.5	7.9	Carc1B
Beryllium and beryllium compounds (as Be)	231-150-7	7440-41-7	-	0.000005	-	0.0002	Carc1B
$\gamma$ -BHC (ISO), see $\gamma$ -Hexachlorocyclohexane							
Biphenyl	202-163-5	92-52-4	0.2	1.5	0.6	4	-
BCME, see bis(Chloromethyl) ether							
2,2-Bis(p-chlorophenyl)-1,1,1-trichloroethane, see 1,1,1-Trichlorobis(chlorophenyl)ethane							
Bis(2,3-epoxypropyl)ether, see Diglycidyl ether (DGE)							
Bis(2-ethylhexyl) Phthalate, see Di-sec-octyl-phthalate							
2,2Bis(p-methoxyphenyl) -1,1,1-trichloroethane, see Methoxychlor(ISO)							
Bisphenol A (4,4'-isopropylidenediphenol) (Inhalable dust)	201-245-8	80-05-7		10			IOELV
Bismuth telluride	215-135-2	1304-82-1	-	10	-	20	-
Bismuth telluride, selenium-doped	-	-	-	5	-	10	-
Borates, (tetra) sodium anhydrous	-	1330-43-4	-	1	-	-	-
decahydrate	-	1303-96-4	-	5	-	-	-
pentahydrate	-	12179-04-3	-	1	-	-	-
Bornan-2-one	200-945-0	76-22-2	2	12	3	18	-

Boron oxide	215-125-8	1303-86-2	-	10	-	20	-
Boron tribromide	233-657-9	10294-33-4	-	-	1	10	-
Boron trifluoride	231-569-5	7637-07-2	-	-	1	3	-
Bromacil (ISO)	206-245-1	314-40-9	1	10	2	20	-
Bromine	231-778-1	7726-95-6	0.1	0.7	0.3	2	IOELV
Bromine pentafluoride	232-157-8	7789-30-2	0.1	0.7	0.3	2	-
Bromochloromethane	200-826-3	74-97-5	200	1050			-
Bromoethane, see Ethyl bromide							
Bromoethylene, see Vinyl bromide							
Bromoform, see Tribromomethane							
Bromomethane	200-813-2	74-83-9	5	20	15	60	Sk
Bromotrifluoromethane, see Trifluorobromomethane							
Buta-1,3-diene	203-450-8	106-99-0	1	2.2	-	-	Carc1A, Muta1B
Butane (see aliphatic hydrocarbon gases)							
Butanethiol	203-705-3	109-79-5	0.5	1.8	-	-	-
Butan-1-ol	200-751-6	71-36-3	-20	-			Sk
Butan-2-ol	201-158-5	78-92-2	100	300	150	450	-
Butan-2-one, see Methyl ethyl ketone (MEK)							
trans But-2-enal	204-647-1	123-73-9	2	6	6	18	-
2-Butoxyethanol (EGBE)	203-905-0	111-76-2	20	98	50	246	Sk, IOELV
2-(2-Butoxyethoxy)ethanol	203-961-6	112-34-5	10	67.5	15	101.2	IOELV
2-Butoxyethyl acetate (EGBEA)	203-933-3	112-07-2	20	133	50	333	Sk, IOELV
Butyl acetate	204-658-1	123-86-4	150	710	200	950	-
sec-Butyl acetate	203-300-1	105-46-4	200	950	250	1190	-
tert-Butyl acetate	208-760-7	540-88-5	200	950	250	1190	-
Butyl acrylate	205-480-7	141-32-2	2	11	10	53	IOELV
n-Butyl alcohol, see Butan-1-ol							
sec-Butyl alcohol, see Butan-2-ol							
tert-Butyl alcohol, see 2-Methyl propan-2-ol							
n-Butylamine	203-699-2	109-73-9	-	-	5	15	Sk
Butyl benzyl phthalate	201-622-7	85-68-7	-	5	-	-	-
n-Butyl chloroformate	209-750-5	592-34-7	1	5.6	-	-	-
tert-Butyl chromate		1189-85-1	-	0.1	-	0.1	-
Butyl-2,3-epoxypropyl ether(BGE)	219-376-4	2426-08-6	25	135	-	-	-
Butyl glycidyl ether, see Butyl-2,3-epoxypropylether							
Butyl lactate	205-316-4	138-22-7	5	25	-	-	-
n-Butyl mercaptan, see Butanethiol							
Tert-Butyl-methyl ether	216-653-1	1634-04-4	50		100		IOELV
2-sec- Butylphenol	201-933-8	89-72-5	5	30	-	-	Sk
p-tert Butyltoluene	202-675-9	98-51-1	1	6.1	-	-	-
Cadmium	231-152-8	7440-43-9	-	0.025	-	-	Carc1B
Cadmium compounds, except cadmium oxide fume and cadmium sulphide pigments (as Cd)	-	7440-43-9	-	0.01 0.0002 (R)	-	-	Carc1B
Cadmium oxide fume (as Cd)	215-146-2	1306-19-0	-	0.025	-	0.05	Carc1B
Cadmium sulphide and cadmium sulphide pigments, respirable dust (as Cd)	215-147-8	1306-23-6	-	0.03	-	-	-

Caesium hydroxide	244-344-1	21351-79-1	-	2	-	-	-
Calcium carbonate total inhalable dust respirable dust	215-279-6	1317-65-3	-	10 4	-	-	-
Calcium chromate (as Cr)	237-366-8	13765-19-0	-	0.001	-	-	Carc1B
Calcium cyanamide	205-861-8	156-62-7	-	0.5	-	1	-
Calcium hydroxide	215-137-3	1305-62-0	-	5	-	-	IOELV
Calcium oxide	215-138-9	1305-78-8	-	2	-	-	-
Calcium silicate total inhalable dust respirable dust	215-710-8	1344-95-2	-	10 4	-	-	-
Calcium sulphate	231-900-3	7778-18-9	-	10	-	-	-
Camphor, synthetic, see Borneol							
ε-Caprolactam	203-313-2	105-60-2	-	10	-	40	IOELV
Captafol (ISO)	219-363-3	2425-06-1	-	0.1	-	-	Sk, Carc1B
Captan (ISO)	205-087-0	133-06-2	-	5	-	15	-
Carbaryl (ISO)	200-555-0	63-25-2	-	5	-	10	-
Carbofuran (ISO)	216-353-0	1563-66-2	-	0.1	-	-	-
Carbon black	215-609-9	1333-86-4	-	3.5	-	7	-
Carbon dioxide	204-696-9	124-38-9	5000	9000	15000	27000	IOELV
Carbon disulphide	200-843-6	75-15-0	5	-	-	-	Sk, IOELV
Carbon monoxide	211-128-3	630-08-0	20	23	100	115	Repr1A
Carbon tetrabromide	209-189-6	558-13-4	0.1	1.4	0.3	4	-
Carbon tetrachloride	200-262-8	56-23-5	2	12.6	-	-	Sk
Carbonyl chloride, see Phosgene							
Carbonyl fluoride	206-534-2	353-50-4	2	5.4	5	13	-
Catechol	204-427-5	120-80-9	5	20	-	-	-
Cellulose total inhalable dust respirable dust	232-674-9	9004-34-6	-	10 4	-	20 -	- -
Cement(Portland) total inhalable dust respirable dust	266-043-4	65997-15-1	-	10 4	-	-	- -
Chlordane (ISO)	200-349-0	57-74-9	-	0.5	-	2	Sk
Chlorinated biphenyls (42% chlorine) (54% chlorine)	215-648-1	1336-36-3 53469-21- 9 11097-69- 1	-	0.1 0.1 0.1	-	-	Sk
Chlorine	231-959-5	7782-50-5	-	-	0.5	1.5	IOELV
Chlorine dioxide	233-162-8	10049-04- 4	0.1	0.3	0.3	0.9	-
Chlorine trifluoride	232-230-4	7790-91-2	-	-	0.1	0.4	-
Chloroacetaldehyde	203-472-8	107-20-0	-	-	1	3	-
Chloroacetone	201-161-1	78-95-5	1	3.8	1	3.8	Sk
2-Chloroacetophenone	208-531-1	532-27-4	0.05	0.3	-	-	-
Chloroacetyl chloride	201-171-6	79-04-9	0.05	0.2	-	-	-
Chlorobenzene (as monochlorobenzene)	203-628-5	108-90-7	5	23	15	70	IOELV
o-Chlorobenzylidene malonitrile	220-278-9	2698-41-1	0.05	0.39	0.05	0.39	Sk
Chlorobromomethane, see Bromochloromethane							
2-Chlorobuta-1,3-diene, see β-Chloroprene							
Chlorodifluoromethane, see Difluorochloromethane							
Chloroethane, see Ethyl chloride							

2-Chloroethanol, see Ethylene chlorohydrin							
Chloroethylene, see Vinyl chloride							
Chloroform	200-663-8	67-66-3	2	9.8	-	-	Sk, IOELV
Chloromethane	200-817-4	74-87-3	50	105	100	210	-
Bis(Chloromethyl) ether	208-832-8	542-88-1	0.001	0.005			Carc1A
Chloromethyl methyl ether	203-480-1	107-30-2	-	-	-	-	Carc1A
1-Chloro-4-nitrobenzene	202-809-6	100-00-5	-	1	-	2	Sk
1-Chloro-1-nitropropane	209-990-0	600-25-9	2	10	-	-	-
Chloropentafluoroethane	200-938-2	76-15-3	1000	6320	-	-	-
Chloropicrin	200-930-9	76-06-2	0.1	0.7	0.3	2	-
β-Chloroprene	204-818-0	126-99-8	10	36	-	-	Sk
3-Chloropropene, see Allyl chloride							
o-Chlorostyrene	218-026-8	2039-87-4	50	283	75	425	-
Chlorosulphonic acid	232-234-6	7790-94-5	-	1	-	-	-
α-Chlorotoluene, see Benzyl chloride							
2-Chlorotoluene	202-424-3	95-49-8	50	250	-	-	-
2-Chloro-6-(trichloromethyl) pyridine, see Nitrapyrin							
Chlorpyrifos (ISO)	220-864-4	2921-88-2	-	0.1 (IFV)	-	-	Sk
Chromium metal	231-157-5	7440-47-3	-	2	-	-	IOELV
Chromium (II) compounds (as Cr)	-	-	-	2	-	-	IOELV
Chromium (III) compounds (as Cr)	-	-	-	2	-	-	IOELV
Chromium (VI) compounds (as Cr)	-	-	-	-	-	-	Carc1B
Water Soluble				0.05			
Insoluble				0.01			
Chromyl Chloride	239-056-8	14977-61-8	0.025	0.16	-	-	Carc1B, Muta1B
Coal dust, respirable dust	-	-	-	1.6	-	-	-
Anthracite				0.4			
Bituminous				0.9			
Coal tar pitch volatiles, (as cyclohexane solubles)	266-028-2	65996-93-2	-	0.14	-	-	-
Cobalt & cobalt compounds (as Co)	231-158-0	7440-48-4	-	0.1	-	-	Sen
Copper (as Cu)	231-159-6	7440-50-8	-	0.2	-	-	-
Fume			-	1	-	2	-
Dusts and mists (as Cu)							
Cotton dust (raw or waste cotton)	-	-	-	2.5	-	-	-
Cresols, all isomers	215-293-2	1319-77-3	5	22	-	-	Sk, IOELV
Cristobalite, respirable dust, (see Silica, Crystalline)	238-455-4	14464-46-1		0.1	-	-	-
Crotonaldehyde	224-030-0	4170-30-0			0.3		-
Crufomate	206-083-1	299-86-5	-	5	-	-	-
Cryofluorane, see 1,2-Dichlorotetrafluoroethane							
Cumene, see Isopropylbenzene							
Cyanamide	206-992-3	420-04-2	0.58	1	-	-	Sk, IOELV
Cyanides, except hydrogen cyanide, cyanogen and cyanogen chloride, (as -CN)		57-12-5	-	5	-	-	Sk

Cyanogen	207-306-5	460-19-5	10	20	-	-	-
Cyanogen chloride	208-052-8	506-77-4	-	-	0.3	0.6	-
Cyclohexane	203-806-2	110-82-7	200	700	-	-	IOELV
Cyclohexanol	203-630-6	108-93-0	50	200	-	-	-
Cyclohexanone	203-631-1	108-94-1	10	40.8	20	81.6	Sk, IOELV
Cyclohexene	203-807-8	110-83-8	300	1015	-	-	-
Cyclohexylamine	203-629-0	108-91-8	10	40	-	-	Sk
Cyclonite, see Hexahydro-1,3,5-trinitro-1,3,5 triazine							
Cyclopentadiene	208-835-4	542-92-7	75	203	-	-	-
Cyclopentane	206-016-6	287-92-3	600	1720	-	-	-
Cyhexatin (ISO), see Tricyclohexyltin hydroxide							
2,4-D (ISO), see 2,4-Dichlorophenoxyacetic acid							
DDM, see 4-4'							
Diaminodiphenylmethane							
DDT, see 1,1,1-Trichlorobis(chlorophenyl) ethane							
DDVP, see Dichlorvos (ISO)							
Decaborane	241-711-8	17702-41-9	0.05	0.25	0.15	0.75	Sk
Demeton		8065-48-3	0.01	0.05 (IFV)			Sk
2,4-DES, see 2-(2,4-Dichlorophenoxy)ethyl hydrogen sulphate							
Derris, commercial, see Rotenone							
Diacetone alcohol	204-626-7	123-42-2	50	240	75	360	-
Dialkyl 79 phthalate	-	-	-	5	-	-	-
Diallyl phthalate	205-016-3	131-17-9	-	5	-	-	-
2,2-Diaminodiethylamine, see Diethylene triamine							
4,4-Diaminodiphenyl- methane (DADPM)	202-974-4	101-77-9	0.01	0.08	-	-	Sk Carc1B
1,2-Diaminoethane, see Ethylenediamine							
Diammonium peroxodisulphate (measured as [S <sup>2O<sub>8</sub></sup> ]) See Persulphate salts							
Diatomaceous earth, natural, respirable dust	272-489-0	68855-54-9	-	1.2	-	-	-
Diazinon (ISO)	206-373-8	333-41-5	-	0.01 (IFV)	-		Sk
Diazomethane	206-382-7	334-88-3	0.2	0.4	-	-	Carc1B
Dibenzoyl peroxide	202-327-6	94-36-0	-	5	-	-	-
Dibismuth tritelluride, see Bismuth telluride							
Dibismuth tritelluride, selenium doped, see Bismuth telluride selenium doped							
Diborane	242-940-6	19287-45-7	0.1	0.1	-	-	-
Diboron trioxide, see Boron oxide							
Dibrom, see 1,2 Dibromo-2, 2 dichloro ethyl dimethyl phosphate (Naled)							
1,2 Dibromo-2,2 dichloro ethyl	206-098-3	300-76-5	-	0.1	-	6	-

dimethyl phosphate				(IFV)				
Dibromodifluoromethane, see Difluorodibromomethane								
1,2 Dibromoethane, see Ethylene dibromide								
2-N-Dibutylaminoethanol	203-057-1	102-81-8	0.5	3.5	-	-	-	Sk
Dibutyl hydrogen phosphate	203-509-8	107-66-4		5 (IFV)	2	10		-
Dibutyl phenyl phosphate	219-772-7	2528-36-1	0.3	3.5	-	-	-	Sk
Di-n-butyl phosphate, see Dibutyl hydrogen phosphate								
Dibutyl phthalate	201-557-4	84-74-2	-	5	-	10		Repr1B
6,6'-di-tert-butyl-4,4'-thio-di-m-cresol	202-525-2	96-69-5	-	10 (l)	-			-
Dichloroacetylene		7572-29-4	-	-	0.1	0.4		-
1,2 Dichlorobenzene	202-425-9	95-50-1	20	122	50	306		Sk, IOELV
1,4-Dichlorobenzene	203-400-5	106-46-7	20	122	50	306		IOELV
3,3-Dichlorobenzidine	202-109-0	91-94-1	-	-	-	-		Carc1B
1,4-Dichloro-2-butene	212-121-8	764-41-0	0.005	0.025	-	-		Sk, Carc1B
Dichlorodifluoromethane	200-893-9	75-71-8	1000	4950	1250	6200		-
1,3-Dichloro-5,5-dimethyl-hydantoin	204-258-7	118-52-5	-	0.2	-	0.4		-
Dichlorodiphenyltrichloroethane, see 1,1,1'-Trichlorobis(chlorophenyl) ethane								
1,1-Dichloroethane	200-863-5	75-34-3	100	412	-	-		Sk, IOELV
1,2-Dichloroethane	203-458-1	107-06-2	5	20	10	40		Sk, Carc1B
1,1-Dichloroethylene	200-864-0	75-35-4	5	20	-	-		-
1,2-Dichloroethylene (cis:trans isomers 60:40), see Acetylene dichloride								
Dichloroethyl ether	203-870-1	111-44-4	5	29	10	58		Sk
Dichlorofluoromethane	200-869-8	75-43-4	10	40	-	-		-
Dichloromethane	200-838-9	75-09-2	50	174	150	550		Sk
2,2'-Dichloro-4,4' methylene-dianiline (MbOCA), see 4,4'Methylene bis-(2-chloroaniline)								
1,1-Dichloro-1-nitroethane	209-854-0	594-72-9	2	12	-	-		-
2,4-Dichlorophenoxyacetic acid [2,4-D (ISO)]	202-361-1	94-75-7	-	10	-	20		-
2-(2,4-dichlorophenoxy)ethyl hydrogen sulphate and sodium 2-(2,4dichlorophenoxy) ethyl sulphate	205-259-5	149-26-8	-	10	-	20		-
1,3-Dichloropropene, cis and trans isomers	208-826-5	542-75-6	1	5	10	50		Sk
Dichloropropionic acid	200-923-0	75-99-0	1	5.8	-	-		-
1,2-Dichlorotetrafluoroethane	200-937-7	76-14-2	1000	7000	1250	8750		-
Dichlorvos (ISO)	200-547-7	62-73-7	0.1	1	0.3	3		Sk
Dicrotophos	205-494-3	141-66-2	-	0.05 (IFV)	-	-		Sk
Dicyclohexyl phthalate	201-545-9	84-61-7	-	5	-	-		-

Dicyclopentadiene	201-052-9	77-73-6	5	30	-	-	-
Dicyclopentadienyl iron, see Ferrocene							
Dieldrin (ISO)	200-484-5	60-57-1	-	0.25	-	0.75	Sk
Diesel exhaust (particulate) (<0.1µm)	-	-	-	0.15	-	-	-
Diesel fuel/kerosene	-	-	-	100	-	-	-
Diethanolamine	203-868-0	111-42-2	0.2	1(IF V)	-	-	-
Diethylamine	203-716-3	109-89-7	5	15	10	30	IOELV
2-Diethylaminoethanol	202-845-2	100-37-8	10	50	-	-	Sk
Diethylene glycol	203-872-2	111-46-6	23	100	-	-	-
Diethylene triamine	203-865-4	111-40-0	1	4	-	-	Sk
Diethyl ether, see Ether							
Di-(2-ethylhexyl) phthalate, see Di-sec-octyl-phthalate							
Diethyl ketone, see Pentan-3-one							
Diethyl phthalate	201-550-6		-	5	-	10	-
Diethyl sulphate	200-589-6	64-67-5	0.05	-	-	-	Sk, Carc1B, Muta1B
Difluorochloromethane	200-871-9	75-45-6	1000	3600	-	-	IOELV
Difluorodibromomethane	200-885-5	75-61-6	100	860	150	1290	-
Difluorodichloromethane, see Dichlorodifluoromethane							
Diglycidyl ether (DGE)	218-802-6	2238-07-5	0.01	0.05	-	-	-
Dihydrogen selenide (as Se)	231-978-9	7783-07-5	0.02	0.07	0.05	0.17	IOELV
m-Dihydroxybenzene, see Resorcinol							
o-Dihydroxybenzene, see Catechol							
p-Dihydroxybenzene, see Hydroquinone							
1,2-Dihydroxyethane, see 1,2-Ethane diol							
Diisobutyl ketone	203-620-1	108-83-8	25	150	-	-	-
Diisobutyl phthalate	201-553-2	84-69-5	-	5	-	-	-
Diisodecyl phthalate	247-977-1	26761-40-0	-	5	-	-	-
Diisononyl phthalate	249-079-5	28553-12-0	-	5	-	-	-
Diisooctyl phthalate	248-523-5	27554-26-3	-	5	-	-	-
Diisopropylamine	203-558-5	108-18-9	5	20	-	-	Sk
Diisopropyl ether, see Isopropyl ether							
Di-linear 79 phthalate	-	-	-	5	-	-	-
Dimethoxymethane, see Methylal							
N,N'-Dimethylacetamide	204-826-4	127-19-5	10	36	20	72	Repr1B, Sk, IOELV
Dimethylamine	204-697-4	124-40-3	2	3.8	5	9.4	IOELV
N,N-Dimethylaniline	204-493-5	121-69-7	5	25	10	50	Sk
1,3-Dimethylbutyl acetate	203-621-7	108-84-9	50	300	100	600	-
Dimethyl carbamoyl chloride	201-208-6	79-44-7	0.005	0.2	-	-	Carc1B



Dimethyl disulphide	210-871-0	624-92-0	0.5	1.9	-	-	-
Dimethyl ether	204-065-8	115-10-6	1000	1920	-	-	IOELV
N,N-Dimethylethylamine	209-940-8	598-56-1	10	30	15	45	-
Dimethylformamide	200-679-5	68-12-2	5		10	60	Sk, Repr1B,IO ELV
2,6-Dimethylheptan-4-one, see Di-isobutyl ketone							
Dimethylhydrazine	200-316-0	57-14-7	0.01	0.02	-	-	Carc1B
Dimethyl phthalate	205-011-6	131-11-3	-	5	-	10	-
Dimethyl sulphate	201-058-1	77-78-1	0.1	0.5	0.1	0.5	Sk, Carc1B
Dimethyl sulphide	200-846-2	75-18-3	20	-	-	-	-
Dimethylethoxysilane	238-921-7	14857-34-2	0.5	-	1.5	-	-
Dinitolmide	205-706-4	148-01-6	-	5	-	-	-
Dinitrobenzene, all isomers	246-673-6	25154-54-5	0.15	1	0.5	3	Sk
Dinitro-o-cresol	208-601-1	534-52-1	-	0.2		0.6	Sk
Dinitrotoluene	246-836-1	25321-14-6	-	0.2		5	Carc1B, Sk
Dinonyl phthalate	201-560-0	84-76-4	-	5	-	-	-
1,4-Dioxane, tech. Grade	204-661-8	123-91-1	20	73	-	-	Sk, IOELV
Dioxathion (ISO)	201-107-7	78-34-2	-	0.1 (IFV)	-	-	Sk
1,3-Dioxolane	211-463-5	646-06-0	20	-	-	-	-
Diphenyl, see Biphenyl							
Diphenylamine	204-539-4	122-39-4	-	10	-	20	-
Diphenyl ether (vapour)	202-981-2	101-84-8	1	7	-	-	-
Diphosphorus pentoxide	215-236-1	1314-56-3	-	1	-	-	IOELV
Diphosphorus pentasulphide, see Phosphorus pentasulphide							
Dipotassium peroxodisulphate (measured as [S <sup>2O<sub>8</sub><sup>2-</sup>]); see Persulphate salts, potassium</sup>							
Dipropylene glycol methyl ether, see (2-Methoxymethyl ethoxy)-1-propanol							
Dipropyl ketone	204-608-9	123-19-3	50	233	-	-	-
Diquat dibromide(ISO)	201-579-4	85-00-7	-	0.5 (I) 0.1 (R)	-		-
Di-sec-octyl phthalate	204-211-0	117-81-7	-	5	-	10	Repr 1B
Disodium disulphite	231-673-0	7681-57-4	-	5	-	-	-
Disodium peroxodisulphate (measured as S <sup>2O<sub>8</sub><sup>2-</sup>); see Persulphate salts, sodium</sup>							
Disodium tetraborate, anhydrous, decahydrate & pentahydrate, see Borates (tetra) sodium							
Disulfoton (ISO)	206-054-3	298-04-4	-	0.05 (IFV)	-		-
Disulphur dichloride, see Sulphur monochloride							
Disulphur decafluoride	227-204-4	5714-22-7	0.025	0.25	0.01	0.75	-
2,6-Ditertiary-butyl-para- cresol	204-881-4	128-37-0	-	10	-	-	-
Diuron (ISO)	206-354-4	330-54-1	-	10	-	-	-
Divanadium pentaoxide (as V), total inhalable fraction	215-239-8	1314-62-1	-	0.05	-	-	-
Divinylbenzene	203-595-7	108-57-6	10	50	-	-	-

DMDT, see Methoxychlor (ISO)							
Dodecyl mercaptan	203-984-1	112-55-0	0.1	-	-	-	
Dusts non-specific total inhalable respirable	-	-	-	10 4	-	-	-
Emery total inhalable dust respirable dust	-	1302-74-5	-	10 4	-	-	-
Endosulfan (ISO)	204-079-4	115-29-7	-	0.1	-	0.3	Sk
Endrin (ISO)	200-775-7	72-20-8	-	0.1	-	0.3	Sk
Enflurane	237-553-4	13838-16-9	50	380	-	-	-
Epichlorohydrin	203-439-8	106-89-8	0.5	2	1.5	6	Sk, Carc1B
1,2 Epoxy-4-epoxyethylcyclohexane, see Vinylcyclohexene dioxide							
2,3-Epoxypropyl isopropyl ether, see Isopropyl glycidyl ether							
Ethane (see aliphatic hydrocarbon gases)							
Ethane-1,2-diol, particulate vapour	203-473-3	107-21-1	-	10 20 52	-	-	Sk, IOELV
Ethanethiol	200-837-3	75-08-1	0.5	1	2	3	-
Ethanol	200-578-6	64-17-5			1000	-	-
Ethanolamine, see 2-Amino ethanol							
Ether	200-467-2	60-29-7	100	308	200	616	IOELV
2-Ethoxyethanol	203-804-1	110-80-5	2	8	-	-	Sk, Repr1B, IOELV
2-Ethoxyethyl acetate	203-839-2	111-15-9	2	11	-	-	Sk, Repr1B, IOELV
Ethyl acetate	205-500-4	141-78-6	200	-	400	-	-
Ethyl acrylate	205-438-8	140-88-5	5	20	10	41	Sk,IOELV
Ethyl alcohol, see Ethanol							
Ethylamine	200-834-7	75-04-7	5	9.4	-	-	IOELV
Ethyl amyl ketone, see 5- Methylheptan-3-one							
Ethylbenzene	202-849-4	100-41-4	100	442	200	884	Sk, IOELV
Ethyl bromide	200-825-8	74-96-4	5	22	-	-	Sk
Ethyl butyl ketone, see Heptan-3-one							
Ethyl chloride	200-830-5	75-00-3	100	268	-	-	IOELV
Ethyl chloroformate	208-778-5	541-41-3	1	4.4	-	-	-
Ethyl cyanoacrylate	230-391-5	7085-85-0	0.2	-	-	-	-
Ethylene	200-815-3	74-85-1	-200	-	-	-	Asphx.
Ethylene chlorohydrin	203-459-7	107-07-3	-	-	1	3	Sk
Ethylenediamine	203-468-6	107-15-3	10	25	-	-	Sen
Ethylene dibromide	203-444-5	106-93-4	0.5	4	-	-	Sk, Carc1B
Ethylene dichloride, see 1,2- Dichloroethane							
Ethylene dinitrate, see Ethylene glycol dinitrate							
Ethylene glycol, particulate & vapour, see Ethane-1,2-diol							
Ethylene glycol dinitrate	211-063-0	628-96-6	0.05	0.3			Sk
Ethylene glycol monobutyl ether, see 2-Butoxyethanol							

Ethylene glycol monoethyl ether, see 2-Ethoxyethanol							
Ethylene glycol monomethyl ether acetate, see 2-Methoxyethyl acetate							
Ethylene glycol monomethyl ether, see 2-Methoxyethanol							
Ethylenimine	205-793-9	151-56-4	0.05	0.1	-	-	Sk, Carc 1B, Muta1B
Ethylene oxide	200-849-9	75-21-8	5	10	-	-	Carc1B, Muta1B
Ethyl ether, see Ether							
Ethyl formate	203-721-0	109-94-4	100	300	150	450	-
Ethyl hexanoic acid	205-743-6	149-57-5	-	4	-	-	-
2-Ethylhexyl chloroformate	246-278-9	24468-13-1	1	7.9	-	-	-
Ethyldiene dichloride, see 1,1-Dichloroethane							
Ethyl mercaptan, see Ethanethiol							
4-Ethylmorpholine	202-885-0	100-74-3	5	23	20	95	Sk
Ethyl silicate	201-083-8	78-10-4	10	85	30	255	-
Fenchlorphos (ISO), see Ronnel							
Ferbam (ISO)	238-484-2	14484-64-1	-	5	-	-	-
Ferrovandium Dust	-	12604-58-9	-	1	-	3	-
Flour dust	-	-	-	1	-	-	Sen
Fluoride (as F)	-	16984-48-8	-	2.5	-	-	-
Fluorides, inorganic	-	-	-	2.5	-	-	IOELV
Fluorine	231-954-8	7782-41-4	1	1.58	2	3.16	IOELV
Fluorodichloromethane, see Dichlorofluoromethane							
Fluorotrichloromethane, see Trichlorofluoromethane							
Formaldehyde	200-001-8	50-00-0	2	2.5	2	2.5	-
Formamide	200-842-0	75-12-7	10	18	-	-	Repr1B
Formic acid	200-579-1	64-18-6	5	9	-	-	IOELV
2-Furaldehyde (Furfural)	202-627-7	98-01-1	2	8	5	20	Sk
Furfuryl alcohol	202-626-1	98-00-0	5	20	15	60	Sk
Germane	231-961-6	7782-65-2	0.2	0.6	0.6	1.8	-
Germanium tetrahydride, see Germane							
Glutaraldehyde	203-856-5	111-30-8	-	-	0.05	0.2	Sen
Glycerol, mist	200-289-5	56-81-5	-	10	-	-	-
Glycerol trinitrate	200-240-8	55-63-0	0.05	0.5	-	-	Sk
Glycidol	209-128-3	556-52-5	2	6	-	-	Carc1B, Repr1B
Glycol mono ethyl ether, see 2-ethoxyethanol							
Grain dust	-	-	-	10	-	-	Sen
Graphite	231-153-3	7440-44-0	-	10	-	-	-
total inhalable dust			-	4	-	-	-
respirable dust			-	4	-	-	-
Guthion	201-676-1	86-50-0	-	0.2	-	0.6	Sk
Gypsum		10101-41-4	-	10	-	-	-
total inhalable dust			-	4	-	-	-
respirable dust			-	4	-	-	-
Halothane	205-796-5	151-67-7	10	80	-	-	-
$\gamma$ -HCH (ISO), see $\gamma$ Hexachlorocyclohexane							
Helium	231-168-5	7440-59-7	-	-	-	-	Asphx
Hafnium	231-166-4	7440-58-6	-	0.5	-	1.5	-

Heptachlor (ISO)	200-962-3	76-44-8	-	0.05	-	-	Sk
Heptachlor epoxide	213-831-0	1024-57-3	-	0.05	-	-	-
n-Heptane	205-563-8	142-82-5	500	2085	-	-	IOELV
Heptan-2-one	203-767-1	110-43-0	50	238	100	475	Sk, IOELV
Heptan-3-one	203-388-1	106-35-4	20	95	-	-	IOELV
Hexachlorobutadiene	201-765-5	87-68-3	0.02	0.21	-	-	Sk
γ-Hexachlorocyclohexane	210-168-9	608-73-1	-	0.5	-	1.5	Sk
Hexachlorocyclopentadiene	201-029-3	77-47-4	0.01	0.1	-	-	-
Hexachloroethane vapour	200-666-4	67-72-1	1	10	-	-	-
Hexachloronaphthalene	215-641-3	1335-87-1	-	0.2	-	-	Sk
Hexafluoroacetone	211-676-3	684-16-2	0.1	0.68	-	-	Sk
Hexahydrophthalic anhydride All isomers (Inhalable)	201-604-9 236-086-3 238-009-9	85-42-7 13149-00-3 14166-21-3	-	-	-	0.005	Sen
Hexahydro-1,3,5-trinitro-1,3,5-triazine	204-500-1	121-82-4	-	0.5	-	-	Sk
Hexamethylene diisocyanate (as -NCO)	212-485-8	822-06-0	-	0.005	-	-	Sen
Hexane, all isomers except n-hexane	-	-	500	1800	1000	3600	-
n-Hexane	203-777-6	110-54-3	20	72	-	-	IOELV
1,6 Hexanediamine	204-679-6	124-09-4	0.5	2.3	-	-	-
1,6 Hexanolactam, dust & vapour: See ε-Caprolactam)							
Hexan-2-one	209-731-1	591-78-6	5	20	-	-	Sk
Hexone, see Methyl isobutyl ketone							
Hexylene glycol	203-489-0	107-41-5	-	-	25	125	-
Hydrazine	206-114-9	302-01-2	0.01	0.01	-	-	Sk, Carc1B
Hydrazoic acid (as vapour)	231-965-8	7782-79-8	-	-	0.1	-	-
Hydrogen	215-605-7	1333-74-0	-	-	-	-	Asphx.
Hydrogenated terphenyls	262-967-7	61788-32-7	0.5	4.9	-	-	-
Hydrogen bromide	233-113-0	10035-10-6	-	-	2	6.6	IOELV
Hydrogen chloride	231-595-7	7647-01-0	5	8	10	15	IOELV
Hydrogen cyanide	200-821-6	74-90-8	-	-	10	10	Sk
Hydrogen fluoride (as F)	231-634-8	7664-39-3	1.8	1.5	3	2.5	Sk, IOELV
Hydrogen peroxide	231-765-0	7722-84-1	1	1.5	2	3	-
Hydrogen selenide (as Se), see dihydrogen selenide							
Hydrogen sulphide	231-977-3	7783-06-4	7	10	14	20	IOELV
Hydroquinone	204-617-8	123-31-9	-	0.5	-	-	-
4-Hydroxy-4-methyl-pentan-2-one, see Diacetone alcohol							
2-Hydroxypropyl acrylate	213-663-8	999-61-1	0.5	3	-	-	Sk
2,2'-Iminodiethanol, see Diethanol amine							
2,2'-Iminodi (ethylamine), see Diethylene triamine							
Indene	202-393-6	95-13-6	5	24	-	-	-
Indium & Compounds (as In)	231-180-0	7440-74-6	-	0.1	-	0.3	-
INN, see 1,2-Dichlorotetrafluoroethane							
Iodine	231-442-4	7553-56-2	-	-	0.1	1	-
Iodoform	200-874-5	75-47-8	0.6	10	1	20	-
Iodomethane, see methyl iodide							
Iron oxide, fume (as Fe)	215-168-2	1309-37-1	-	5	-	10	-
Iron pentacarbonyl, see Pentacarbonyl iron (as Fe)							
Iron salts (as Fe)	-	-	-	1	-	2	-
Isoamyl acetate, see isopentyl acetate							

Isoamyl alcohol	204-633-5	123-51-3	100	360	125	450	-
Isoamyl methyl ketone	203-737-8	110-12-3	20	95	-	-	Sk, IOELV
Isobutyl acetate	203-745-1	110-19-0	150	700	187	875	-
Isobutyl alcohol	201-148-0	78-83-1	50	150	75	225	-
Isobutyl methyl ketone, see methyl isobutyl ketone							
Isocyanates (all, as -NCO)	-	-	-	0.02	-	0.07	Sen
Isoflurane	247-897-7	26675-46-7	50	380	-	-	-
Isocetyl alcohol (mixed isomers)	248-133-5	26952-21-6	50	270	-	-	-
Isopentyl acetate	204-662-3	123-92-2	50	260	100	520	IOELV
Isophorone, see 3,5,5-trimethyl cyclohex-2-enone							
Isophorone diisocyanate (IPDI) (as -NCO)	223-861-6	4098-71-9	-	0.005	-	-	Sen
Isopropoxyethanol	203-685-6	109-59-1	25	106	-	-	Sk
Isopropyl acetate	203-561-1	108-21-4	100	-	200	-	-
Isopropyl alcohol	200-661-7	67-63-0	200	-	400	-	Sk
Isopropylamine	200-860-9	75-31-0	5	12	10	24	-
n-Isopropylaniline	212-196-7	768-52-5	2	11	-	-	Sk
Isopropyl benzene	202-704-5	98-82-8	20	100	50	250	Sk, IOELV
Isopropyl chloroformate	203-563-2	108-23-6	1	5	-	-	-
Isopropyl ether	203-560-6	108-20-3	250	1050	310	1320	-
Isopropyl glycidyl ether (IGE)	223-672-9	4016-14-2	50	240	75	360	-
Kaolin, respirable dust	-	1332-58-7	-	2	-	-	-
Ketene	207-336-9	463-51-4	0.5	0.9	1.5	3	-
Lead (CAS No.:7439-92-1) and its compounds (except tetraethyl lead); [see Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No.619 of 2001)]	-	-	-	0.15	-	-	Repr1A, BOELV
Limestone, see Calcium carbonate							
Lindane, see $\gamma$ hexachlorocyclohexane							
Liquefied petroleum gas (LPG)	270-704-2	68476-85-7	1000	1800	1250	2250	-
Lithium hydride	231-484-3	7580-67-8	-	0.025	-	-	IOELV
Lithium hydroxide	215-183-4	1310-65-2	-	-	-	1	-
Magnesium oxide respirable dust	215-171-9	1309-48-4	-	4	-	-	-
fume			-	5	-	10	-
total inhalable dust			-	10	-	-	-
Malathion (ISO)	204-497-7	121-75-5	-	1 (IFV)	-	-	Sk
Maleic anhydride	203-571-6	108-31-6	0.1	-	-	-	Sen
Manganese, fume (as Mn)	231-105-1	7439-96-5	-	0.2	-	3	-
Manganese and compounds (as Mn)	231-105-1	7439-96-5	-	0.2	-	-	-
Manganese cyclopentadienyl tricarbonyl	235-142-4	12079-65-1	-	0.1	-	0.3	Sk
Manganese tetraoxide, see Trimanganese tetraoxide							
Machinemade mineral fibre (excluding refractory ceramic fibres) (MMMf)	-	-	1 fibres per milli litre of air	5	-	-	-
Marble, see Calcium carbonate							
MbOCA, See 4,4'-Methylenebis-(2-chloroaniline)							
MDA, see 4,4' - methylenedianiline							
MDI, see 4,4' -methylene-diphenyl diisocyanate							
Mequinol, see 4-methoxyphenol							

Mercaptoacetic acid	200-677-4	68-11-1	1	5	-	-	-
Mercury alkyls (as Hg)	-	-	-	0.01	-	0.03	Sk
Mercury & divalent inorganic mercury compounds	-	7439-97-6	-	0.02	-	-	IOELV
Mesitylene ( <i>also 1,3,5 trimethylbenzene</i> )	203-604-4	108-67-8	20	100	-	-	IOELV
Mesityl oxide	205-502-5	141-79-7	15	60	25	100	-
Methacrylic acid	201-204-4	79-41-4	20	70	40	140	-
Methacrylonitrile	204-817-5	126-98-7	1	2.8	-	-	Sk
Methane (see aliphatic hydrocarbon gases)							
Methanethiol	200-822-1	74-93-1	0.5	1	-	-	-
Methanol	200-659-6	67-56-1	200	260	-	-	Sk, IOELV
Methomyl (ISO)	240-815-0	16752-77-5	-	2.5	-	-	Sk
Methoxychlor (ISO)	200-779-9	72-43-5	-	10	-	-	-
2-Methoxyethanol	203-713-7	109-86-4	1	3	-	-	Sk, Repr1B, IOELV
2-(2-Methoxyethoxy)ethanol	203-906-6	111-77-3	10	50.1	-	-	Sk, IOELV
2-Methoxyethyl acetate	203-772-9	110-49-6	1	5	-	-	Sk, Repr1B, IOELV
2-Methoxy-1-methylethylacetate	203-603-9	108-65-6	50	275	100	550	Sk, IOELV
(2-Methoxymethylethoxy)-l-propanol	252-104-2	34590-94-8	50	308	-	-	Sk, IOELV
4-Methoxyphenol	205-769-8	150-76-5	-	5	-	-	-
1-Methoxypropan-2-ol, see Propylene glycol monomethyl ether							
Methyl acetate	201-185-2	79-20-9	200	610	250	760	-
Methyl acetylene	200-828-4	74-99-7	1000	1610	-	-	-
Methyl acrylate	202-500-6	96-33-3	5	18	10	36	Sk, IOELV
Methylacrylonitrile, see methacrylonitrile							
Methylal	203-714-2	109-87-5	1000	3100	1250	3880	
Methyl alcohol, see Methanol							
Methylamine	200-820-0	74-89-5	5	6	15	19	-
Methyl-n-amyl-ketone, see Heptan-2-one							
N-Methylaniline	202-870-9	100-61-8	0.5	2	-	-	Sk
Methyl bromide, See Bromomethane							
3-Methylbutan-1-ol, see Isoamyl alcohol							
1-Methyl butyl acetate	210-946-8	626-38-0	50	270	100	540	IOELV
Methyl chloride, See Chloromethane							
Methyl chloroform, see 1,1,1-trichloroethane							
Methyl 2-cyanoacrylate	205-275-2	137-05-3	0.2	1	0.3	1.4	-
Methylcyclohexane	203-624-3	108-87-2	400	1600			-
Methylcyclohexanol	247-152-6	25639-42-3	50	235	75	350	-
2-Methylcyclohexanone	209-513-6	583-60-8	50	230	75	345	Sk
Methylcyclopentadienyl manganese, tricarbonyl (as Mn), see Tricarbonyl (methylcyclopentadienyl) manganese							
2-Methyl-4, 6-dinitrophenol, see Dinitro-o-cresol							
4,4'Methylenebis-(2-chloroaniline)	202-918-9	101-14-4	-	0.005	-	-	Sk,

								Carc1B
Methylene chloride, see Dichloromethane								
4,4'-Methylene-diphenyl diisocyanate (as -NCO)	202-966-0	101-68-8	-	0.02	-	0.07		Sen
4,4'-Methylenedianiline, see 4, 4' Diaminodiphenyl-methane (DADPM)								
Methyl ethyl ketone (MEK)	201-159-0	78-93-3	200	600	300	900		Sk, IOELV
Methyl ethyl ketone peroxides (MEKP)	215-661-2	1338-23-4	-	-	0.2	1.5		-
Methyl ethyl ketoxime	202-496-6	96-29-7	3	10	10	33		-
Methyl formate	203-481-7	107-31-3	100	250	150	375		Sk
5-Methylheptan-3-one	208-793-7	541-85-5	10	53	20	107		IOELV
5-Methylhexan-2-one, see Isoamyl methyl ketone								
Methylhydrazine	200-471-4	60-34-4	0.01	0.02	-	-		Sk, Carc1B
Methyl iodide	200-819-5	74-88-4	2	11	5	28		Sk
Methyl isoamyl ketone, see Isoamyl methyl ketone								
Methyl isobutyl carbinol	203-551-7	108-11-2	25	100	40	160		Sk
Methyl isobutyl ketone (MIBK)	203-550-1	108-10-1	20	83	50	208		Sk, IOELV
Methyl isocyanate (as -NCO)	210-866-3	624-83-9	-	-	-	0.02		Sen, IOELV
Methyl isopropyl ketone	209-264-3	563-80-4	200	705	-	-		-
Methyl mercaptan, see Methanethiol								
Methyl methacrylate	201-297-1	80-62-6	50	-	100	-		IOELV
Methyl parathion, see Parathion-methyl (ISO)								
2-Methylpentane-2,4-diol, see Hexylene glycol								
4-Methylpentan-2-ol, see Methyl isobutyl carbinol								
4-Methylpentan-2-one, see Methyl isobutyl ketone								
4-Methylpent-3-en-2-one, see Mesityl oxide								
4-Methyl-m-phenylene diisocyanate (as -NCO)	-	-	-	0.02	-	0.07		Sen
2-Methylpropan-1-ol, see Iso-butyl alcohol								
2-Methylpropan-2-ol	200-889-7	75-65-0	100	300	150	450		-
Methyl propyl ketone, see Pentan-2-one								
1-Methyl-2-pyrrolidone	212-828-1	872-50-4	10	40	20	80-		Sk, IOELV
Methyl silicate	211-656-4	681-84-5	1	6	5	30		-
$\alpha$ -Methylstyrene, see 2-Phenylpropene								
Methylstyrene, all isomers	246-562-2	25013-15-4	50	242	10	483		-
N-Methyl-N, 2,4,6-tetranitro-aniline, see Tetryl								
Methyl vinyl ketone	201-160-0	78-94-4	0.2	-	-	-		Sk, Sen
Metribuzin	244-209-7	21087-64-9		5	-	-		-
Mevinphos (ISO)	232-095-1	7786-34-7	0.01	0.1	0.03	0.3		Sk
Mica		12001-26-2						
total inhalable dust			-	10	-	-		-
respirable dust			-	0.8	-	-		-
Mineral oil	-	-	-	-	-	-		-

Used in Metal working (Inhalable)				0.2				
Pure, Highly & Severely Refined (Inhalable)				5				
Mineral wool	-	-	2 fibres per millilitre of air	5	-	-	-	-
Molybdenum compounds (as Mo), soluble compounds	231-107-2	7439-98-7	-	0.5 (R) 10 (I)	-	-	-	-
insoluble compounds			-	3 (R)	-	-	-	-
Monochloroacetic acid	201-178-4	79-11-8	0.3	1	-	-	-	Sk
Monocrotophos	230-042-7	6923-22-4	-	0.25	-	-	-	Sk
Morpholine	203-815-1	110-91-8	10	36	20	72	-	Sk, IOELV
Naled (ISO), see 1,2 dibromo-2, 2 dichloro ethyl dimethyl phosphate								
Naphtha (rubber solvent)	232-443-2	8030-30-6			-	-	-	Carc1B
Naphthalene	202-049-5	91-20-3	10	50	15	75	-	IOELV
β-Naphthylamine	202-080-4	91-59-8	-	-	-	-	-	Carc1A
1,5-Naphthylene diisocyanate (as – NCO)	221-641-4	3173-72-6	-	-	-	-	-	Sen
Neon	231-110-9	7440-01-9	-	-	-	-	-	Asphx.
Nickel	231-111-4	7440-02-0	-	0.5	-	-	-	-
Nickel carbonyl	236-669-2	13463-39-3	0.05	0.12	0.1	0.24	-	Repr1B
Nickel, inorganic compounds (as Ni) soluble compounds	-	-	-	0.1	-	-	-	-
insoluble compounds			-	0.5	-	-	-	-
Nickel, organic compounds (as Ni)	-	-	-	1	-	3	-	-
Nicotine	200-193-3	54-11-5	-	0.5	-	-	-	Sk, IOELV
Nitrapyrin	217-682-2	1929-82-4	-	10	-	20	-	-
Nitric acid	231-714-2	7697-37-2	-	-	1	2.6	-	IOELV
Nitric oxide	233-271-0	10102-43-9	25	30	35	45	-	IOELV
4-Nitroaniline	202-810-1	100-01-6	-	3	-	-	-	Sk
Nitrobenzene	202-716-0	98-95-3	0.2	1	-	-	-	Sk, IOELV
4-Nitrodiphenyl	202-204-7	92-93-3	-	-	-	-	-	Sk, Carc1B
Nitroethane	201-188-9	79-24-3	100	310	-	-	-	-
Nitrogen	231-783-9	7727-37-9	-	-	-	-	-	Asphx
Nitrogen dioxide	233-272-6	10102-44-0	3	5	5	9	-	-
Nitrogen monoxide, See nitric oxide								
Nitrogen trifluoride	232-007-1	7783-54-2	10	30	15	45	-	-
Nitroglycerine, see Glycerol trinitrate								
Nitromethane	200-876-6	75-52-5	20	50	-	-	-	-
1-Nitropropane	203-544-9	108-03-2	25	90	-	-	-	-
2-Nitropropane	201-209-1	79-46-9	5	18	-	-	-	Carc1B
2-Nitrotoluene	201-853-3	88-72-2	2	11	-	-	-	Sk
3-Nitrotoluene	202-728-6	99-08-1						
4-Nitrotoluene	202-808-0	99-99-0						
Nitrous oxide	233-032-0	10024-97-2	50	90	-	-	-	-
Nonane, all isomers	203-913-4	111-84-2	200	1050	-	-	-	-
Octachloronaphthalene	218-778-7	2234-13-1	-	0.1	-	0.3	-	Sk
n-Octane	203-892-1	111-65-9	300	1450	375	1800	-	-
Orthophosphoric acid	231-633-2	7664-38-2	-	1	-	2	-	IOELV
Osmium tetroxide (as Os)	244-058-7	20816-12-0	.0002	0.002	0.0006	0.006	-	-
Oxalic acid	205-634-3	144-62-7	-	1	-	-	-	IOELV
Oxalonnitrile, see Cyanogen								
2,2'-Oxydiethanol, see Diethylene								



glycol								
Oxygen difluoride	231-996-7	7783-41-7	0.05	0.11	0.05	0.11	-	
Ozone	233-069-2	10028-15-6	0.05	-	-	-	-	
Heavy work			0.08	-	-	-	-	
Moderate work			0.10	-	-	-	-	
Light work			0.20	-	-	-	-	
Heavy, moderate or light workloads (≤2 hrs)								
Paracetamol, total inhalable dust	203-157-5	103-90-2	-	10	-	-	-	
Paraffin wax, fume	232-315-6	8002-74-2	-	2	-	6	-	
Paraquat dichloride (ISO) respirable dust	217-615-7	1910-42-5	-	0.08	-	-	-	
Parathion (ISO)	200-271-7	56-38-2	-	0.1	-	0.3	-	Sk
Parathion-methyl (ISO)	206-050-1	298-00-0	-	0.02 (IFV)	-	-	-	Sk
Pentaborane	243-194-4	19624-22-7	0.005	0.01	0.015	0.039	-	
Pentachloronaphthalene	215-320-8	1321-64-8	-	0.5	-	-	-	Sk
Pentachloronitrobenzene	201-435-0	82-68-8	-	0.5	-	-	-	
Pentacarbonyl iron (as Fe)	236-670-8	13463-40-6	0.01	0.08	-	-	-	
Pentachlorophenol	201-778-6	87-86-5	-	0.5	-	1.5	-	Sk
Pentaerythritol	204-104-9	115-77-5	-	10	-	20	-	
total inhalable dust			-	4	-	-	-	
respirable dust								
n-Pentane	203-692-4	109-66-0	1000	3000	-	-	-	IOELV
iso-Pentane	201-142-8	78-78-4						
neo-Pentane	207-343-7	463-82-1						
Pentan-2-one	203-528-1	107-87-9	200	700	250	875	-	
Pentan-3-one	202-490-3	96-22-0	200	700	250	875	-	
Pentyl acetate	211-047-3	628-63-7	50	270	100	540	-	IOELV
3-Pentylacetate	211-047-3	620-11-1	50	270	100	540	-	IOELV
Perchloroethylene, see Tetrachloroethylene								
Perchloromethyl mercaptan	209-840-4	594-42-3	0.1	0.76	-	-	-	
Perchloryl fluoride	231-526-0	7616-94-6	3	14	6	28	-	
Perfluoroisobutylene		382-21-8	0.01	0.082	0.01	0.082	-	
Persulphate salts, inorganic;			-		-	-	-	
Ammonium persulphate	231-786-5	7727-54-0		0.1				Sen
Potassium persulphate	231-781-8	7727-21-1		0.1				Sen
Sodium persulphate	231-892-1	7775-27-1		0.1				Sen
Phenacyl chloride, see 2-Chloroacetophenone								
Phenol	203-632-7	108-95-2	2	8	4	16	-	Sk, IOELV
p-Phenylenediamine	203-404-7	106-50-3	-	0.1	-	-	-	Sk
Phenyl-2,3-epoxypropyl ether	204-557-2	122-60-1	0.1	0.6	-	-	-	Carc1B
Phenylethylene, see Styrene								
Phenyl glycidyl ether, see Phenyl-2,3-epoxypropyl ether								
Phenylhydrazine	202-873-5	100-63-0	0.1	0.44	-	-	-	Carc1B, Sk
Phenyl mercaptan, see Benzenethiol								
2-Phenylpropene	202-705-0	98-83-9	50	246	100	492	-	IOELV
Phorate (ISO)	206-052-2	298-02-2	-	0.05	-	0.2	-	Sk
Phosdrin, see Mevinphos (ISO)								
Phosgene	200-870-3	75-44-5	0.02	0.08	0.1	0.4	-	IOELV
Phosphine	232-260-8	7803-51-2	0.1	0.14	0.2	0.28	-	IOELV
Phosphoric acid, see Orthophosphoric acid								

Phosphorus, yellow	231-768-7	7723-14-0	-	0.1	-	0.3	-
Phosphorus, pentachloride	233-060-3	10026-13-8	-	1	-	-	IOELV
Phosphorus pentasulphide	215-242-4	1314-80-3	-	1	-	-	IOELV
Phosphorus trichloride	231-749-3	7719-12-2	0.2	1.5	0.5	3	-
Phosphoryl trichloride	233-046-7	10025-87-3	0.2	1.2	0.6	3.6	-
Phthalic anhydride	201-607-5	85-44-9	-	4	-	12	Sen
Picloram (ISO)	217-636-1	1918-02-1	-	10	-	20	-
Picric acid	201-865-9	88-89-1	-	0.1	-	0.3	Sk, IOELV
Piperazine	203-808-3	110-85-0	-	0.1	-	0.3	Sen, IOELV
Piperazine dihydrochloride	205-551-2	142-64-3	-	0.1	-	0.3	-
Piperidine	203-813-0	110-89-4	1	3.5	-	-	Sk
Plaster of Paris	-	26499-65-0	-	10	-	-	-
total inhalable dust			-	4	-	-	-
respirable dust			-	-	-	-	-
Platinum metal	231-116-1	7440-06-4	-	1	-	-	IOELV
Platinum salts, soluble (as Pt)	231-116-1	7440-06-4	-	0.002	-	-	Sen
Polychlorinated biphenyls (PCBs), see Chlorinated biphenyls							
Polyvinyl chloride (PVC)	-	9002-86-2	-	10	-	-	-
total inhalable dust			-	1	-	-	-
respirable dust			-	-	-	-	-
Portland Cement	266-043-4	65997-15-1	-	1 (R)	-	-	-
			-	-	-	-	-
Potassium hydroxide	215-181-3	1310-58-3	-	-	-	2	
Propane (see aliphatic hydrocarbon gases)							
Propane-1,2-diol	200-338-0	57-55-6	-	-	-	-	-
total (vapour and particulates)			150	470	-	-	-
particulates			-	10	-	-	-
1,3-Propane sultone	214-317-9	1120-71-4	-	-	-	-	Carc1B
n-Propanol	200-746-9	71-23-8	100	-	-	-	Sk
Propan-1-ol see n-Propanol							
Propan-2-ol, see Isopropyl alcohol							
Propargyl alcohol, see Prop-2-yn-1-ol							
Propiolactone	200-340-1	57-57-8	0.5	1.5	-	-	Carc1B
Propionic acid	201-176-3	79-09-4	10	31	20	62	IOELV
Propoxur (ISO)	204-043-8	114-26-1	-	0.5	-	2	-
n-Propyl acetate	203-686-1	109-60-4	200	840	250	1050	-
n-Propyl alcohol, see n-Propanol							
Propylene	204-062-1	115-07-1	500	-	-	-	Asphx.
Propylene dinitrate (PGDN)	229-180-0	6423-43-4	0.05	0.3	-	-	Sk
Propylene dichloride	201-152-2	78-87-5	10	46	-	-	-
Propylene glycol, see propane-1,2-diol							
Propylene glycol dinitrate, see propylene dinitrate							
Propylene glycol monomethyl ether	203-539-1	107-98-2	100	375	150	568	IOELV
Propyleneimine	200-878-7	75-55-8	0.2	-	0.4	-	
Propylene oxide	200-879-2	75-56-9	5	12	-	-	Carc1B, Muta1B
n-Propyl nitrate	210-985-0	627-13-4	25	107	40	172	-
2-Propyn-1-ol	203-471-2	107-19-7	1	2	3	6	Sk
Pulverised fuel ash	-	-	-	10	-	-	-
total inhalable dust			-	4	-	-	-
respirable			-	-	-	-	-
Pyrethrins (ISO)	232-319-8	8003-34-7	-	1	-	-	IOELV
Pyrethrum, see pyrethrins							

Pyridine	203-809-9	110-86-1	5	15	10	30	IOELV
2-Pyridylamine, see 2-Amino pyridine							
Pyrocatechol, see Catechol							
Quartz, respirable dust, (see Silica, crystalline)	238-878-4	14808-60-7	-	0.1	-	-	-
Quinone	203-405-2	106-51-4	0.1	0.4	0.3	1.2	-
RDX, see hexahydro-1,3,5- trinitro-1,3,5-triazine							
Refractory Ceramic Fibres (RCFs)	-	-	-	5mg/m <sup>3</sup> 1 fibre/ml	-	-	Carc1B
Resorcinol	203-585-2	108-46-3	10	45	-	-	Sk, IOELV
Rhodium (as Rh), metal fume and dust soluble salts	231-125-0	7440-16-6	- -	0.1 0.001	- -	0.3 0.003	- -
Ronnel	206-082-6	299-84-3	-	5	-	-	-
Rosin core solder pyrolysis products (as airborne total resin acid)	-	-	-	0.05	-	0.15	Sen
Rotenone (ISO)	201-501-9	83-79-4	-	5	-	10	-
Rouge total inhalable dust respirable dust	215-168-2	1309-37-1	- -	10 4	- -	- -	- -
Rubber fume process dust	-	-	- -	0.6 6	- -	- -	- -
Rubber solvent (naphtha), see Naphtha (rubber solvent)							
Selenium and compounds, except hydrogen selenide(as Se)	231-957-4	7782-49-2	-	0.1	-	-	-
Selenium hexafluoride		7783-79-1	0.05	0.16	-	-	-
Sesone, see Sodium 2-(2,4- dichlorphenoxy) ethyl sulphate							
Silane	232-263-4	7803-62-5	0.5	0.7	1	1.5	-
Silica, amorphous total inhalable dust respirable dust	-	-	- -	6 2.4	- -	- -	- -
Silica, crystalline, respirable dust, (See Cristobalite, Quartz, Tridymite, Tripoli)	-	-		0.1	-	-	
Silica, fused respirable dust		60676-86-0		0.08	-	-	-
Silicon Si total inhalable dust respirable dust	231-130-8	7440-21-3	- -	10 4	- -	- -	- -
Silicon carbide total inhalable dust respirable dust	206-991-8	409-21-2	- -	10 4	- -	- -	- -
Silicon tetrahydride, see Silane							
Silver (metallic)	231-131-3	7440-22-4	-	0.1	-	-	IOELV
Silver (soluble compounds as Ag)	-	-	-	0.01	-	-	IOELV
Sodium azide (as NaN <sub>3</sub> )	247-852-1	26628-22-8	-	0.1	-	0.3	Sk, IOELV
Sodium bisulfite	231-548-0	7631-90-5	-	5	-	-	-
Sodium 2-(2,4- dichlorphenoxy) ethyl sulphate	205-259-5	136-78-7	-	10	-	20	-
Sodium fluoroacetate	200-548-2	62-74-8	-	0.05	-	0.15	Sk
Sodium hydrogensulphite, see Sodium bisulfite							
Sodium hydroxide	215-185-5	1310-73-2	-		-	2	-
Sodium metabisulphite, see Disodium disulphite							

← Starch total inhalable dust respirable dust	232-679-6	9005-25-8	- -	10 4	- -	- -	- -
Stearates (except lead stearate)	-	-	-	10	-	-	-
Stibine		7803-52-3	0.1	0.5	0.3	1.5	-
Stoddard solvent	232-489-3	8052-41-3	100	573	-	-	-
Strontium chromate	232-142-6	7789-06-2	-	0.0005	-	-	Carc1B
Strychnine	200-319-7	57-24-9	-	0.15	-	0.45	-
Styrene	202-851-5	100-42-5	20	85	40	170	-
Subtilisins (proteolytic enzymes as 100% pure crystalline enzyme)	232-752-2	9014-01-1	-	0.00006	-	0.00006	Sen
Sucrose	200-334-9	57-50-1	-	10	-	20	-
Sulphotep (TEDP)(ISO), see O,O,O',O'-Tetraethyl dithiopyrophosphate(ISO)							
Sulphur dioxide	231-195-2	7446-09-5	0.5	1.3	1	2.6	-
Sulphur hexafluoride	219-854-2	2551-62-4	1000	6000	1250	7500	-
Sulphuric acid	231-639-5	7664-93-9	-	0.05	-	-	IOELV
Sulphur monochloride	233-036-2	10025-67-9	-	-	1	6	-
Sulphur pentafluoride, see Disulphur decafluoride							
Sulphur tetrafluoride	232-013-4	7783-60-0	0.1	0.4	0.3	1	-
Sulphuryl difluoride	220-281-5	2699-79-8	5	20	10	40	-
Sulprofus	252-545-0	35400-43-2	-	0.1 (IFV)	-	-	-
2,4,5-T (ISO)2,4,5- Trichloro- phenoxyacetic acid)	202-273-3	93-76-5	-	10	-	20	-
TDI, see Toluene diisocyanate							
TEDP(ISO), see 0,0,0',O'- Tetraethyl dithiopyrophosphate							
TEPP (ISO), see 0,0,0',O'- Tetraethyl pyrophosphate							
TNT, see 2,4,6- trinitrotoluene							
Talc total inhalable dust respirable dust	238-877-9	14807-96-6	- -	10 0.8	- -	- -	- -
Tantalum	231-135-5	7440-25-7	-	5	-	10	-
Tellurium & compounds, except hydrogen telluride, (as Te)	236-813-4	13494-80-9	-	0.1	-	-	-
Temephos	222-191-1	3383-96-8	-	1	-	-	-
Terephthalic acid	202-830-0	100-21-0	-	10	-	-	-
Terphenyls, all isomers	247-477-3	26140-60-3	-	-	0.5	5	-
1,1,2,2-Tetrabromoethane	201-191-5	79-27-6	0.1 (ifv)	-	-	-	Sk
Tetrabromomethane, see Carbon tetrabromide							
Tetracarbonylnickel(as Ni),see nickel carbonyl							
1,1,1,2-Tetrachloro-2,2-difluoroethane	200-934-0	76-11-9	100	834	100	834	-
1,1,2,2-Tetrachloro-1,2- difluoroethane	200-935-6	76-12-0	50	417	-	-	-
1,1,2,2, Tetrachloroethane	201-197-8	79-34-5	1	6.9	-	-	Sk
Tetrachloroethylene	204-825-9	127-18-4	25	170	100	678	-
Tetrachloromethane, see carbon tetrachloride							
Tetrachloronaphthalenes, all isomers	215-642-9	1335-88-2	-	2	-	4	-
O,O,O',O'- Tetraethyl dithio- pyrophosphate(ISO)	222-995-2	3689-24-5	-	0.1	-	-	Sk, IOELV
O,O,O'O'-Tetraethyl pyrophosphate(ISO)	203-495-3	107-49-3	0.0008	0.01	-	-	Sk
Tetraethyl lead	201-075-4	78-00-2	-	0.10	-	-	Sk, Repr1A

Tetraethyl orthosilicate, see Ethyl silicate							
Tetrafluorodichloroethane, see 1,2-Dichlorotetrafluoro-ethane							
Tetrahydrofuran	203-726-8	109-99-9	50	150	100	300	Sk, IOELV
Tetramethyl lead	200-897-0	75-74-1	-	0.15	-	-	Sk
Tetramethyl orthosilicate, see Methyl silicate							
Tetramethyl succinonitrile		3333-52-6	0.5	3	2	9	Sk
Tetranitromethane	208-094-7	509-14-8	0.005	0.040	-	-	-
Tetrasodium pyrophosphate	231-767-1	7722-88-5	-	5	-	-	-
Tetryl	207-531-9	479-45-8	-	1.5	-	3	Sk
Thallium, soluble compounds (as Tl)	231-138-1	7440-28-0	-	0.1	-	-	Sk
4,4'-Thiobis (6-tert-butyl-m-cresol), see 6,6'-di-tert-butyl-4,4'-thio-di-m-cresol							
Thioglycolic acid, see Mercapto acetic acid							
Thionyl chloride	231-748-8	7719-09-7	-	-	0.5	2.4	-
Thiram (ISO)	205-286-2	137-26-8	-	0.05 (IFV)	-	-	-
Tin, as Sn	231-141-8	7440-31-5 & others	-	-	-	-	IOELV
Metal				2			
Oxide & inorganic compounds, except tin hydride				2			
Organic compounds				0.1		0.2	
Titanium dioxide total inhalable dust	236-675-5	13463-67-7	-	10	-	-	-
respirable dust			-	4	-	-	-
o-Tolidine	204-358-0	119-93-7	-	-	-	-	Sk Carc1B
Toluene	203-625-9	108-88-3	50	192	100	384	Sk, IOELV
Toluene-2,4- or 2,6- diisocyanate (as -NCO)	209-544-5	584-84-9 91-08-7	-	0.001 (IFV)	-	0.003 (IFV)	Sen
p-Toluenesulphonyl chloride	202-684-8	98-59-9	-	-	-	5	-
o-Toluidine	202-429-0	95-53-4	0.2	0.9	-	-	Sk Carc1B
m-Toluidine	203-583-1	108-44-1	0.2	0.9	-	-	Sk
p-Toluidine	203-403-1	106-49-0	0.2	0.9	-	-	Sk
1,4,7-Tri-(aza)-heptane, see Diethylene triamine							
Tribromomethane	200-854-6	75-25-2	0.5	5	-	-	Sk
Tributyl phosphate, all isomers	204-800-2	126-73-8	0.2		-		-
Tricarbonyl (etacyclopenta- dienyl) manganese (as Mn), see Manganese cyclopentadienyl tricarbonyl							
Tricarbonyl (methylcyclo- pentadienyl) manganese (as Mn),	235-166-5	12108-13-3	-	0.2	-	0.6	Sk
Trichloroacetic acid	200-927-2	76-03-9	1	5	-	-	-
1,2,4-Trichlorobenzene	204-428-0	120-82-1	2	15.1	5	37.8	Sk, IOELV
1,1,1-Trichlorobis (chlorophenyl) ethane	200-024-3	50-29-3	-	1	-	3	-
1,1,1-Trichloroethane	200-756-3	71-55-6	100	555	200	1110	IOELV
1,1,2-Trichloroethane	201-166-9	79-00-5	10	45	20	90	Sk
Trichloroethylene	201-167-4	79-01-6	10		25		Sk, Carc1B

Trichlorofluoromethane	200-892-3	75-69-4	1000	5600	1250	7000	-
Trichloromethane, see Chloroform							
Trichloronaphthalene	215-321-3	1321-65-9	-	5	-	-	Sk
Trichloronitromethane, see Chloropicrin							
2,4,5-Trichlorophenoxyacetic acid ((2,4,5-T(ISO)))	202-273-3	93-76-5	-	10	-	20	-
1,2,3-Trichloropropane	202-486-1	96-18-4	10	60			-
1,1,2-Trichlorotri-fluoroethane	200-936-1	76-13-1	1000	7600	1250	9500	-
Tri-o-cresyl phosphate, see Tri-o-tolyl phosphate							
Tricyclohexyltin hydroxide	236-049-1	13121-70-5	-	5	-	10	-
Tridymite, respirable dust (see Silica, Crystalline)	239-487-1	15468-32-3	-	0.1	-	-	-
Triethanolamine	203-049-8	102-71-6	-	5	-	-	-
Triethylamine	204-469-4	121-44-8	2	8.4	3	12.6	Sk, IOELV
Trifluorobromomethane	200-887-6	75-63-8	1000	6100	1200	7300	-
Triglycidyl isocyanurate, TGIC	219-514-3	2451-62-9	-	0.05	-	-	Muta1B
Trimanganese tetraoxide	215-266-5	1317-35-7	-	0.5	-	-	-
Trimellitic anhydride	209-008-0	552-30-7	-	0.0005	-	0.002	Sen
Trimethylamine	200-875-0	75-50-3	5	12	15	36	-
1,2,3 – Trimethylbenzene	208-394-8	526-73-8	20	100	-	-	Sk, IOELV
1,2,4 – Trimethylbenzene	202-436-9	95-63-6	20	100	-	-	IOELV
Trimethylbenzenes, all isomers or mixtures	247-099-9	25551-13-7	20	100	-	-	Sk, IOELV
3,5,5-Trimethylcyclohex-2-enone	201-126-0	78-59-1	-	-	5	25	-
Trimethyl phosphite	204-471-5	121-45-9	2	10	-	-	-
2,4,6-Trinitrophenol, see Picric acid							
2,4,6-Trinitrotoluene	204-289-6	118-96-7	-	0.1	-	-	Sk
Triorthocresyl phosphate, see Tri-o-tolyl phosphate,							
Triphenylamine	210-035-5	603-34-9	-	5	-	-	-
Triphenyl phosphate	204-112-2	115-86-6	-	3	-	6	-
Tripoli, respirable dust (see Silica, Crystalline)		1317-95-9	-	0.1	-	-	-
Tri-o-tolyl phosphate	201-103-5	78-30-8	-	0.1	-	0.3	-
Tungsten & compounds (as W), soluble	231-143-9	7440-33-7	-	1	-	3	-
insoluble			-	5	-	10	-
Turpentine	232-350-7	8006-64-2	20	112	150	840	-
Uranium compounds, natural, soluble, (as U)	231-170-6	7440-61-1	-	0.2	-	0.6	-
n-Valeraldehyde	203-784-4	110-62-3	50	176	-	-	-
Vanadium pentoxide, see Divanadium pentaoxide							
Vinyl acetate	203-545-4	108-05-4	5	18	10	35	IOELV
Vinyl benzene, see styrene							
Vinyl bromide	209-800-6	593-60-2	0.5	2.2	-	-	Carc1B
Vinyl chloride(VCM)	200-831-0	75-01-4	3	7.77	-	-	Carc1A, BOELV
4-Vinylcyclohexene	202-848-9	100-40-3	0.1	0.4	-	-	-
4-Vinylcyclohexene dioxide	203-437-7	106-87-6	0.1	0.6	-	-	-
Vinyl fluoride	200-832-6	75-02-5	1	-	-	-	-
Vinylidene chloride, see 1,1-Dichloroethylene							
Vinylidene fluoride	200-867-7	75-38-7	500	-	-	-	-
Vinyl pyrrolidone	201-800-4	88-12-0	-	0.05	-	-	-
Vinyl toluene, all isomers, see							

Methylstyrene							
VM and P Naptha	232-453-7	8032-32-4			-	-	Carc1B
Warfarin (ISO)	201-377-6	81-81-2	-	0.1	-	0.3	Repr1A
Welding fume	-	-	-	5	-	-	-
White spirit, see Stoddard solvent							
Wood dust, (soft wood)	-	-	-	5	-	-	Sen
Wood dust, (hard wood)	-	-	-	5	-	-	Sen, BOELV
Xylene, mixed isomers	215-535-7	1330-20-7	50	221	100	442	Sk, IOELV
Xylene, o-isomer	202-422-2	95-47-6	50	221	100	442	Sk, IOELV
Xylene m-isomer	203-576-3	108-38-3	50	221	100	442	Sk, IOELV
Xylene p-isomer	203-396-5	106-42-3	50	221	100	442	Sk, IOELV
Xylidine, all isomers	215-091-4	1300-73-8	0.5 (IFV)	2,5			Sk
Yttrium	231-174-8	7440-65-5	-	1	-	3	-
Zinc chloride, fume	231-592-0	7646-85-7	-	1	-	2	-
Zinc chromates	236-878-9	13530-65-9	-	0.01	-	-	Carc1A
Zinc distearate	209-151-9	557-05-1					
total inhalable dust			-	10	-	20	-
respirable dust			-	4	-	-	-
Zinc oxide, fume	215-222-5	1314-13-2	-	2 (R)	-	10	-
Zirconium compounds (as Zr)	231-176-9	7440-67-7	-	5	-	10	-

**SCHEDULE 2**  
**List of Chemical Agents and Occupational Exposure Limit Values**

**Part 1**

**List of chemical agents for which the Occupational Exposure Limit Value (OELV) has changed compared to the 2010 Code of Practice (and which are now included in Schedule 1 to the 2011 Code of Practice)**

Substance	EINECS No.	CAS No.	2010-OELV (8-hour reference period except where STEL indicated)	2011-OELV (8 hour reference period except where STEL indicated)
Acetaldehyde	200-836-8	75-07-0	STEL 50	STEL 25
Acrylic Acid	201-177-9	79-10-7	10 (No STEL)	2
Aldrin	206-215-8	309-00-2	0.25mg/m <sup>3</sup>	0.05mg/m <sup>3</sup> (IFV)
Aluminium Metal Total Inhalable Dust Respirable Dust Welding Fume	231-072-3	7429-90-5	10mg/m <sup>3</sup> 4mg/m <sup>3</sup> 5mg/m <sup>3</sup>	1mg/m <sup>3</sup> (R)
Arsine	232-066-3	7784-42-1	0.05	0.005
Beryllium and compounds as Be	231-150-7	7440-41-7	0.002mg/m <sup>3</sup>	0.0005mg/m <sup>3</sup> STEL 0.0002mg/m <sup>3</sup>
Butan-1-ol	200-751-6	71-36-3	STEL 25	20 (No STEL)
Cadmium and compounds, as Cd	-	7440-43-9	0.025mg/m <sup>3</sup>	0.01mg/m <sup>3</sup> 0.002mg/m <sup>3</sup> (R)
Chlorpyrifos	220-864-4	2921-88-2	0.2mg/m <sup>3</sup> STEL=0.6mg/m <sup>3</sup>	0.1mg/m <sup>3</sup> No STEL
Crotonaldehyde	224-030-0	4170-30-3	2 STEL 6	STEL 0.3
Demeton	-	8065-48-3	0.11mg/m <sup>3</sup>	0.05mg/m <sup>3</sup> (IFV)
Diazinon	206-373-8	333-41-5	0.1mg/m <sup>3</sup> STEL 0.3mg/m <sup>3</sup>	0.01mg/m <sup>3</sup> (IFV) Remove STEL
1,2 Dibromo-2,2 dichloro ethyl dimethyl phosphate (Naled)	206-098-3	300-76-5	3mg/m <sup>3</sup>	0.1mg/m <sup>3</sup>
2-N-Dibutylaminoethanol	203-057-1	102-81-8	2	0.5
Dibutyl phosphate (Dibutyl hydrogen phosphate)	203-509-8	107-66-4	1 (5mg/m <sup>3</sup> )	5mg/m <sup>3</sup> (IFV)
Dicrotophos	205-494-3	141-66-2	0.25mg/m <sup>3</sup>	0.05mg/m <sup>3</sup> (IFV)
Diethanolamine	203-868-0	111-42-2	3 (15mg/m <sup>3</sup> )	1mg/m <sup>3</sup>
Diglycidyl Ether	218-802-6	2238-07-5	0.1	0.01
Dimethyl carbamoyl chloride	201-208-6	79-44-7	C2	0.005
Dimethyl disulphide	210-871-0	624-92-0	5	0.5
1, 1-Dimethylhydrazine	200-316-0	57-14-7	0.5	0.01
Dioxathion	201-107-7	78-34-2	0.2mg/m <sup>3</sup>	0.1mg/m <sup>3</sup> (IFV)
Diquat Dibromide	201-579-4	85-00-7	0.5mg/m <sup>3</sup>	0.5mg/m <sup>3</sup> 0.1mg/m <sup>3</sup> (R)
Disulphur decafluoride (Sulphur pentafluoride)	227-204-4	5714-22-7	0.025 STEL 0.075	STEL=0.01
Disulfoton	206-054-3	298-04-4	0.1mg/m <sup>3</sup>	0.05mg/m <sup>3</sup> (IFV) Remove STEL
Ethanol	200-578-6	64-17-5	1000 No STEL	Remove OELV STEL 1000
Ethylenimine	205-793-9	151-56-4	0.5	0.05
Ethylene Glycol Dinitrite	211-063-0	628-96-6	0.2	0.05 Remove STEL
Ferbam	238-484-2	14484-64-1	10mg/m <sup>3</sup>	5mg/m <sup>3</sup>
Ferrocene	203-039-3	102-54-5	10mg/m <sup>3</sup> STEL 20mg/m <sup>3</sup>	Removal
Formamide	200-842-0	75-12-7	20 STEL 30	10 Remove STEL
Glycerol Trinitrate (Nitroglycerin)	200-240-8	55-63-0	0.2	0.05
Heptachlor	200-962-3	76-44-8	0.5mg/m <sup>3</sup>	0.05mg/m <sup>3</sup>



Heptachlor epoxide	213-831-0	1024-57-3	No OELV	0.05mg/m <sup>3</sup>
Hexachlorocyclopentadiene	201-029-3	77-47-4	0.1	0.01
Hexachloroethane vapour	200-666-4	67-72-1	5	1 Withdraw dust limits due to insufficient data
Hexahydro-1,3,5-trinitro-1,3,5-triazine	204-500-1	121-82-4	1.5 STEL 3	0.5
Hexamethylene diisocyanate	212-485-8	822-06-0	0.02 STEL 0.07	0.005 Remove STEL
Hexylene Glycol	203-489-0	107-41-5	25	Remove OELV STEL 25
Indene	202-393-6	95-13-6	10	5
Isophorone diisocyanate	223-861-6	4098-71-9	0.2	0.005 Remove STEL
Manganese Fume & inorganic compounds (as Mn)	231-105-1	7439-96-5	1mg/m <sup>3</sup>	0.2mg/m <sup>3</sup>
Magnesite	208-915-9	546-93-0	10(l) 4(R)	Withdraw limits due to insufficient data
Malathion	204-497-7	121-75-5	10mg/m <sup>3</sup>	1mg/m <sup>3</sup> (IFV)
Maleic Anhydride	203-571-6	108-31-6	0.25	0.1
Methylamine	200-820-0	74-89-5	10	5 STEL15
Methylcyclohexane	203-624-3	108-87-2	400 STEL 500	400 Remove STEL
Methylhydrazine	200-471-4	60-34-4	0.2	0.01
Methyl parathion	206-050-1	298-00-0	0.2mg/m <sup>3</sup>	0.02mg/m <sup>3</sup> (IFV)
Methyl Stryene (all isomers)	246-562-2	25013-15-4	100 STEL 150	50 STEL 100
Naphtha (Rubber Solvent)		8030-30-6	400	Withdraw due to insufficient data
1, 5 Naphthylene diisocyanate	221-641-4	3173-72-6	0.02mg/m <sup>3</sup>	Withdraw due to insufficient data
4-Nitroaniline	202-810-1	100-01-6	6mg/m <sup>3</sup>	3mg/m <sup>3</sup>
Nitromethane	200-876-6	75-52-5	100	20 Remove STEL
Nitrotoluene (all isomers)	201-853-3 202-728-6 202-808-0	88-72-2 99-08-1 99-99-0	5	2
Nitrous Oxide	233-032-0	10024-97-2	100	50
Phenyl-2,3-epoxypropyl ether	204-557-2	122-60-1	1	0.1
Portland Cement	266-043-4	65997-15-1	Total Dust=10mg/m <sup>3</sup> Respirable=4mg/m <sup>3</sup>	1mg/m <sup>3</sup> (R)
Polyvinylchloride Total Inhalable Dust Respirable Dust	-	9002-86-2	10 4	10 1
Propylene	204-062-1	115-07-1	Asphx-No OELV	500
Propylene dinitrate	229-180-0	6423-43-4	0.2	0.05
Propylene dichloride	201-152-2	78-87-5	75	10 Remove STEL
Propyleneimine		75-55-8	No OELV	0.2 (STEL 0.4)
Ronnel	206-082-6	299-84-3	10mg/m <sup>3</sup>	5mg/m <sup>3</sup>
Soapstone	-	-	Total Dust=6mg/m <sup>3</sup> Respirable=2.25mg/m <sup>3</sup>	Withdraw due to insufficient data
Sulphur dioxide	231-195-2	7446-09-5	2 (5 STEL)	0.5 (1 STEL)
Sulprofos	252-545-0	35400-43-2	1mg/m <sup>3</sup>	0.1mg/m <sup>3</sup> (IFV)
Temphos	222-191-1	3383-96-8	10mg/m <sup>3</sup>	1mg/m <sup>3</sup>
Tetrabromoethane	201-191-5	79-27-6	0.5	0.1

(1,1,2,2-Tetrabromoethane)				
1,1,1,2-Tetrachloro-1,2-difluoroethane	200-935-6	76-12-0	100	50
Tetrachloroethylene	204-825-9	127-18-4	STEL 150	STEL 100
Tetraethyl pyrophosphate	203-495-3	107-49-3	0.05mg/m <sup>3</sup>	0.01mg/m <sup>3</sup> Remove STEL
4,4, Thiobis (6-tert-butyl-m-cresol)	202-525-2	96-69-5	10mg/m <sup>3</sup> STEL 20mg/m <sup>3</sup>	10mg/m <sup>3</sup> (I) Remove STEL
Thiram	205-286-2	137-26-8	5mg/m <sup>3</sup>	0.05mg/m <sup>3</sup> IFV
Thionyl chloride	231-748-8	7719-09-7	STEL 1	STEL 0.5
Toluene diisocyanate	209-544-5	584-84-9	0.02mg/m <sup>3</sup> STEL 0.07mg/m <sup>3</sup>	0.001ppm (IFV) STEL 0.003ppm (IFV)
Tributyl phosphate, all isomers	204-800-2	126-73-8	5mg/m <sup>3</sup> STEL 5mg/m <sup>3</sup>	0.2ppm Remove STEL
Trichloroethylene	201-167-4	79-01-6	50 STEL 100	10 STEL 25
1,2,3 Trichloropropane	202-486-1	96-18-4	50	10
Trimellitic Anhydride	209-008-0	552-30-7	0.04mg/m <sup>3</sup> STEL 0.12mg/m <sup>3</sup>	0.0005mg/m <sup>3</sup> STEL 0.002mg/m <sup>3</sup>
Trimethylamine	200-875-0	75-50-3	10 STEL 15	5 Remove STEL
2,4,6-Trinitrotoluene	204-289-6	118-96-7	0.5mg/m <sup>3</sup>	0.1mg/m <sup>3</sup>
Turpentine	232-350-7	8006-64-2	100	20
VM & P naphtha	232-453-7	8032-32-4	300 (1370mg/m <sup>3</sup> )	Withdraw due to insufficient data
Xylidine	215-091-4	1300-73-8	2	0.5 (IFV) Remove STEL
Zinc Oxide, fume	215-222-5	1314-13-2	5mg/m <sup>3</sup> STEL 10mg/m <sup>3</sup>	2mg/m <sup>3</sup> (R)

- Units are ppm unless mg/m<sup>3</sup> are stated

**Part II**  
**Indicative Occupational Exposure Limit Values (IOELVs) listed in Commission Directive 2009/161/EU establishing a third list of indicative occupational exposure limit values in the implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC.**

This Directive was adopted on 17<sup>th</sup> December 2009. Member States are obliged to take account of IOELVs when setting national limits, where national limits, if in existence, are less stringent than those set down in the Directive. The Directive is required to be transposed into national legislation by Member States by 18 December 2011 at the latest. The Health and Safety Authority has added the IOELV list from Directive 2009/116/EU to Schedule 1 in this edition of the Code of Practice.

Substance	EINECS No.	CAS No	2007-OELV (8-Hour reference period except where STEL indicated)	Substances included in the 3 <sup>rd</sup> list of IOELVs. Limits are listed below. (8-Hour reference period except where STEL indicated)	Notes
N,N Dimethylformamide	200-679-5	68-12-2	10 (STEL 20)	5 (STEL 10)	Sk, IOELV
Carbon Disulphide	200-843-6	75-15-0	10	5	Sk, IOELV
Bisphenol A (4,4'-isopropylidenediphenol) (inhalable dust)	201-245-8	80-05-7	No OELV	10mg/m <sup>3</sup>	IOELV
Methyl methacrylate	201-297-1	80-62-6	50 (STEL 100)	50 (STEL 100)	IOELV
Methyl acrylate	202-500-6	96-33-3	2	5 (STEL 10)	IOELV
Vinyl Acetate	203-545-4	108-05-4	10 (STEL 20)	5 (STEL 10)	IOELV
Phenol	203-632-7	108-95-2	2	2 (STEL 4)	Sk, IOELV
2-Methoxyethanol	203-713-7	109-86-4	5	1	Sk, IOELV
2-Methoxyethyl acetate	203-772-9	110-49-6	5	1	Sk, IOELV
2-Ethoxy ethanol	203-804-1	110-80-5	5	2	Sk, IOELV
2-Ethoxyethyl acetate	203-839-2	111-15-9	10	2	Sk, IOELV
1,4-Dioxane	204-661-8	123-91-1	20	20	IOELV
Ethylacrylate	205-438-8	140-88-5	5 (STEL 15)	5 (STEL 10)	IOELV
Methylisocyanate	210-866-3	624-83-9	0.02 (STEL 0.07)	STEL 0.02	IOELV
n-Methyl-2-pyrrolidone	212-828-1	872-50-4	25	10 (STEL 20)	Sk, IOELV
Tertiary-butyl-methyl ether	216-653-1	1634-04-4	No OELV	50 (STEL 100)	IOELV
Mercury and divalent inorganic mercury compounds (measured as Mercury)	-	7439-97-6	0.025mg/m <sup>3</sup>	0.02mg/m <sup>3</sup>	IOELV
Sulphuric Acid (mist)	231-639-5	7664-93-9	1mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>	IOELV
Hydrogen Sulphide	231-977-3	7783-06-4	5 (STEL 10)	7 (STEL 14)	IOELV

- Units are ppm unless mg/m<sup>3</sup> are stated

### Part III

**List of chemical agents for which the Occupational Exposure Limit Value (OELV) has not changed from that listed in the 2010 Code of Practice but for which the notation contained in the notes column in Schedule 1 to the 2011 Code of Practice has been revised**

Substance	EINECS No	CAS No	2010 column	2011 column
Allyl chloride	203-457-6	107-05-1	-	Sk
1, 4 Dioxane, tech Grade	204-661-8	123-91-1	Sk	Sk, IOELV
Methyl methacrylate	201-297-1	80-62-6	-	IOELV
Napthalene	202-049-5	91-20-3	-	IOELV
Nitrogen Monoxide	233-271-0	10102-43-9	-	IOELV
Cresols, all isomers	215-293-2	1319-77-3	Sk	Sk, IOELV
Acetic Acid	200-580-7	64-19-7	-	IOELV
Calcium Hydroxide	244-344-1	21351-79-1	-	IOELV
Lithium Hydride	231-484-3	7580-67-8	-	IOELV

### SCHEDULE 3

**List of chemical agents for which it is the intention of the Health and Safety Authority to introduce an Occupational Exposure Limit Value (OELV) or to change the existing OELV in 2013**

Comments may be made in writing to the Health and Safety Authority concerning any of the limits referred to in this Schedule.

Substance	EINECS No.	CAS No.	2011-OELV (8-hour reference period except where STEL indicated)	2013-OELV (8 hour reference period except where STEL indicated)
Acetic Anhydride	203-564-8	108-24-7	0.5ppm	1ppm
Acetylene Dichloride	208-750-2	540-59-0	200 STEL 250	Remove STEL
Allyl bromide	203-446-6	106-95-6	No OELV	0.1ppm
Allyl 2,3 Epoxypropyl ether	203-442-4	103-92-3	5 STEL 10	Remove STEL
Biphenyl	202-163-5	92-52-4	0.2 STEL 0.6	Remove STEL
Bismuth telluride	215-135-2	1304-82-1	10mg/m <sup>3</sup> STEL 20mg/m <sup>3</sup>	Remove STEL
Bismuth telluride, selenium-doped	-	-	5mg/m <sup>3</sup> STEL 10mg/m <sup>3</sup>	Remove STEL
Bromacil (ISO)	206-245-1	314-40-9	1 STEL 2	Remove STEL
Bromine pentafluoride	232-157-8	7789-30-2	0.1 STEL 0.3	Remove STEL
Butyl 2,3 epoxy propylether	219-376-4	2426-08-6	25	3
Calcium silicate Nonfibrous particles Fibrous forms	215-710-8	1344-95-2	Dusts only: 10mg/m <sup>3</sup> (I) 4mg/m <sup>3</sup> (R)	0.5mg/m <sup>3</sup> (R) 1f/cc
Carbaryl (ISO)	200-555-0	63-25-2	5mg/m <sup>3</sup>	0.5mg/m <sup>3</sup> (IFV) Remove STEL
Carbon Black	215-609-9	1333-86-4	3.5mg/m <sup>3</sup> STEL 7mg/m <sup>3</sup>	3mg/m <sup>3</sup> (I) Remove STEL
Chlordane	200-349-0	57-74-9	0.5mg/m <sup>3</sup> STEL 2	Remove STEL
Chloropicrin	200-930-9	76-06-2	0.7mg/m <sup>3</sup> STEL 2	Remove STEL
Diacetone alcohol	204-626-7	123-42-2	50 STEL 75	Remove STEL
Dichlorodifluoromethane	200-893-9	75-71-8	1000 STEL 1250	Remove STEL
Dichloromethane	200-838-9	75-09-2	50 STEL 150	Remove STEL
1,3-Dichloropropene, cis and trans isomers	208-826-5	542-75-6	1 STEL 10	Remove STEL
1,2-Dichlorotetrafluoroethane	200-937-7	76-14-2	1000 STEL 1250	Remove STEL
Dieldrin (ISO)	200-484-5	60-57-1	0.25mg/m <sup>3</sup> STEL 0.75	Remove STEL
Difluorodibromomethane	200-885-5	75-61-6	100	Remove STEL

			STEL 150	
1,3-Dimethylbutyl acetate	203-621-7	108-84-9	50 STEL 100	Remove STEL
Dinitro-o-cresol	208-601-1	534-52-1	0.2mg/m <sup>3</sup> STEL 0.6	Remove STEL
Dinitrotoluene	246-836-1	25321-14-6	0.2mg/m <sup>3</sup>	Remove STEL
Endrin	200-775-7	72-20-8	0.1mg/m <sup>3</sup> STEL 0.3	Remove STEL
Epichlorohydrin	203-439-8	106-89-8	0.5 STEL 1.5	Remove STEL
Ethyl silicate	201-083-8	78-10-4	10 STEL 30	Remove STEL
Formaldehyde	200-001-8	50-00-0	2 2.5mg/m <sup>3</sup>	STEL 0.3
Isobutyl acetate	203-745-1	110-19-0	150 STEL 187	Remove STEL
Maleic anhydride	203-571-6	108-31-6	0.1mg/m <sup>3</sup>	0.01mg/m <sup>3</sup> (IFV)
Manganese	231-105-1	7439-96-5	0.2mg/m <sup>3</sup>	0.2mg/m <sup>3</sup> (I) 0.02mg/m <sup>3</sup> (R)
Methylal	203-714-2	109-87-5	1000 STEL 1250	Remove STEL
Methyl 2-cyanoacrylate	205-275-2	137-05-3	0.2 STEL 0.3	Remove STEL
Methylcyclohexanol	247-152-6	25639-42-3	50 STEL 75	Remove STEL
Methyl iodide	200-819-5	74-88-4	2 STEL 5	Remove STEL
Methyl isopropyl ketone	209-264-3	563-80-4	200	20
Methyl silicate	211-656-4	681-84-5	1 STEL 5	Remove STEL
Mevinphos (ISO)	232-095-1	7786-34-7	0.01 STEL 0.03	Remove STEL
Nickel carbonyl	236-669-2	13463-39-3	0.05 STEL 0.1	Remove STEL
Nitrogen trifluoride	232-007-1	7783-54-2	10 STEL 15	Remove STEL
n-Octane	203-892-1	111-65-9	300 STEL 375	Remove STEL
Parathion (ISO)	200-271-7	56-38-2	0.1mg/m <sup>3</sup> STEL 0.3mg/m <sup>3</sup>	Remove STEL
Pentachlorophenol	201-778-6	87-86-5	0.5mg/m <sup>3</sup> STEL 1.5mg/m <sup>3</sup>	Remove STEL
2,4-Pentanedione	204-634-0	123-54-6	No OELV	25
Piperazine dihydrochloride	205-551-2	142-64-3	0.1mg/m <sup>3</sup> STEL 0.3mg/m <sup>3</sup>	Withdraw OELV
Quinone	203-405-2	106-51-4	0.1 STEL 0.3	Remove STEL
Sodium fluoroacetate	200-548-2	62-74-8	0.05mg/m <sup>3</sup> STEL 0.15mg/m <sup>3</sup>	Remove STEL
Stibine	-	7803-52-3	0.1 STEL 0.3	Remove STEL
Strychnine	200-319-7	57-24-9	0.15mg/m <sup>3</sup> STEL 0.45mg/m <sup>3</sup>	Remove STEL
Tetrachloronaphthalenes, all isomers	215-642-9	1335-88-2	2mg/m <sup>3</sup> STEL 4mg/m <sup>3</sup>	Remove STEL
Tetramethyl succinonitrile	-	3333-52-6	0.5 STEL 2	Remove STEL
4,4'-Thiobis(6-tert-butyl-m-cresol)	202-525-2	96-69-5	10mg/m <sup>3</sup> (I)	1mg/m <sup>3</sup> (I)
Thionyl chloride	231-748-8	7719-09-7	STEL 0.5	STEL 0.2

Tricarbonyl (methylcyclopentadienyl) manganese (as Mn)	235-166-5	12108-13-3	0.2mg/m <sup>3</sup> STEL 0.6mg/m <sup>3</sup>	Remove STEL
1,1,1-Trichlorobis (chlorophenyl) ethane	200-024-3	50-29-3	1mg/m <sup>3</sup> STEL 3mg/m <sup>3</sup>	Remove STEL
1,1,2-Trichloroethane	201-166-9	79-00-5	10 STEL 20	Remove STEL
Trichlorofluoromethane	200-892-3	75-69-4	1000 STEL 1250	STEL 1000
2,4,5-Trichloro-phenoxyacetic acid (2,4,5-T (ISO))	202-273-3	93-76-5	10mg/m <sup>3</sup> STEL 20mg/m <sup>3</sup>	Remove STEL
Trifluorobromomethane	200-887-6	75-63-8	1000 STEL 1200	Remove STEL
Triphenylamine	210-035-5	603-34-9	5mg/m <sup>3</sup>	Withdraw OELV
Welding fume	-	-	5mg/m <sup>3</sup>	Withdraw OELV