Workplace exposure limits for airborne contaminants

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* + 1. Introduction

This document contains a list of workplace exposure limits (WEL) for airborne contaminants and information to assist persons conducting a business or undertaking (PCBUs) to meet their duties under the model Work Health and Safety (WHS) Act and model WHS Regulations in relation to airborne contaminants.

* + - 1. Development of workplace exposure limits

The WEL are the result of the review of the [*Workplace exposure standards (WES) for airborne contaminants*](https://www.safeworkaustralia.gov.au/safety-topic/managing-health-and-safety/workplace-exposure-standards) (the WES review). The [WES review](https://www.safeworkaustralia.gov.au/safety-topic/managing-health-and-safety/workplace-exposure-standards-chemicals/workplace-exposure-standards-review) assessed evidence related to the human-health impacts of airborne contaminants (excluding asbestos) and recommended changes to the exposure standards to ensure they are based on the highest quality, contemporary evidence and supported by a rigorous scientific approach.

Key differences between the *Workplace exposure standards for airborne contaminants* and this document include:

* Workplace exposure standards (WES) are now called workplace exposure limits (WEL) – to align with international practice and better reflect the requirements of the model WHS laws as these are exposure levels that must not be exceeded[[1]](#footnote-1) rather than best practice standards.
* WEL for some chemicals have been modified to reflect the health-based recommendations from the WES review – however, most limits remain unchanged.
* WEL for new airborne contaminants have been added.
* removal of airborne contaminants that are prohibited for import, manufacture and use under other Australian laws.
* removal of the WEL for non-threshold genotoxic carcinogens (NTGCs) listed in Appendix B.
* changes to notations:
  + the sensitiser notation used in the WES has been replaced by more specific notations - respiratory sensitiser (RSEN) and dermal sensitiser (DSEN).
  + addition of a new notation for ototoxic substances, where exposure in combination with noise can increase the risk of hearing loss.
  + carcinogenicity notations removed as there is more contemporary information available from the [Hazardous chemicals information system](http://hcis.safeworkaustralia.gov.au/) or safety data sheets.
* new notes to highlight airborne contaminants that are also subject to additional regulations around use, handling, storage and/or health monitoring.

WHS ministers agreed to a transitional period for implementation of the WEL. At the end of the transitional period, this document will replace the [*Workplace exposure standards for airborne contaminants*](https://www.safeworkaustralia.gov.au/safety-topic/managing-health-and-safety/workplace-exposure-standards). Until 30 November 2026, PCBUs must continue to ensure that no person at the workplace is exposed to a substance or mixture in an airborne concentration that is higher than the WES in the [*Workplace exposure standards for airborne contaminants*](https://www.safeworkaustralia.gov.au/safety-topic/managing-health-and-safety/workplace-exposure-standards).

* + - 1. Legislative context

PCBUs have a primary duty under the model WHS Act to ensure, so far as is reasonably practicable, the health and safety of workers and others at the workplace (section 19). This requires PCBUs to eliminate risks to health and safety, so far as is reasonably practicable; and if this is not reasonably practicable, to minimise those risks so far as is reasonably practicable (section 17).

In discharging their primary duty under section 19, a PCBU is required to manage the risks to health and safety associated with the use, handling etc of hazardous chemicals[[2]](#footnote-2) at the workplace in accordance with Part 3.1 of the mode WHS Regulations.[[3]](#footnote-3)

The model WHS Regulations also require a PCBU to ensure that no person at the workplace is exposed to a substance or mixture in an airborne concentration that exceeds the WES for the substance or mixture (regulation 49). Further, a PCBU is required to conduct air monitoring if they are not certain on reasonable grounds whether the airborne concentration of a substance at the workplace exceeds the WES or where the monitoring is needed to determine if there is a risk to health (regulation 50).

From the end of the WEL transitional period, the model WHS Regulations will require PCBUs to:

* ensure that no person at the workplace is exposed to a substance or mixture in an airborne concentration that exceeds the WEL for that substance.
* undertake air monitoring if they are not certain on reasonable grounds whether the airborne concentration of substance exceeds the WEL.
  + 1. Managing the risk of airborne contaminants

An airborne contaminant is a fume, mist, gas, vapour, or dust that can be harmful to health when breathed in. They may not be visible to the naked eye nor detected by odour. They may arise from chemicals or materials used in the workplace or be generated by work processes.

The risks from airborne contaminants in the workplace must be managed.

* + - 1. Airborne contaminants and exposure limits

Airborne contaminants with a WEL have known adverse health effects. The WEL for each airborne contaminant in Attachment A is intended to protect the health of workers in Australia from both the short and long term effects of exposure.

Exposure limits are the maximum level of an airborne contaminant that most (but not all) people can be exposed to without harm to their health.

The WEL were derived, as described in the [WES review methodology](https://www.safeworkaustralia.gov.au/safety-topic/managing-health-and-safety/workplace-exposure-standards-chemicals/workplace-exposure-standards-review), by evaluating information from trusted international sources to identify appropriate and contemporary health-based limits for each airborne contaminant.

However, WEL do not identify the dividing line between an exposure that will or won’t result in adverse health effects. PCBUs must eliminate health and safety risks so far as is reasonably practicable, and if this is not reasonably practicable, minimise those risks so far as is reasonably practicable.

Some people may have health effects at levels below the exposure limit, either due to individual differences or due to existing health conditions (such as pregnancy, cancer treatment, recovery from an illness, heart, or lung disease).

There may be additional factors that can cause people to have health effects at an exposure level below the WEL. If there are multiple airborne contaminants in the workplace, then the combined effects of these must be considered. For example, exposure to multiple airborne contaminants either at the same time or one after the other may cause additional harm. Some airborne contaminants can also interact to be more harmful than either contaminant on its own. Exposure to ototoxic chemicals and noise can lead to increased risks of hearing loss.

Airborne contaminants that can also be absorbed through the skin can increase a worker’s exposure and, in some cases, cause sensitisation. Sensitisation can also occur through respiratory tract absorption. More information on managing the hazards associated with these types of chemicals can be found in section 3.3: Advisory Notations.

PCBUs should also engage an appropriately trained and experienced person, such as an occupational hygienist, to understand the potential effect on worker’s health of airborne contaminants in their workplace and identify the control measures that may be needed to protect workers.

* + - 1. Health monitoring

[Health monitoring](https://www.safeworkaustralia.gov.au/safety-topic/managing-health-and-safety/health-monitoring) is the monitoring of a worker by a registered medical practitioner to identify changes in health status because of exposure to certain chemicals. PCBUs must provide health monitoring as part of managing the risks to the health and safety of workers in certain circumstances.

Health monitoring is required where a worker is carrying out ongoing work at a workplace using, handling, generating or storing hazardous chemicals and:

* there is a significant risk to a worker’s health because of exposure to a hazardous chemical referred to in Schedule 14 to the model WHS Regulations (regulation 368(a)), or
* there is a significant risk that a worker will be exposed to a hazardous chemical not referred to in Schedule 14 and there are valid techniques available to detect its effect on the worker's health (regulation 368(b)(i)).

There are also health monitoring requirements for workers about to start, and one month after starting, lead risk work (regulation 405) and workers carrying out asbestos removal or other asbestos-related work that are at risk of exposure (regulation 435).

Through informing the current health status of workers, health monitoring provides the PCBU with an indication of the effectiveness of current control measures. Where adverse health effects are identified through health monitoring, a review of control measures will be required to revise the approach to managing the risks to workplace health and safety (regulation 352).

Exposure to some of the chemicals in the WEL list (Attachment A) and the NTGC list (Attachment B) are listed in Schedule 14. These chemicals have been identified in the appendices.

* + - 1. Prohibited and restricted chemicals

Some of the airborne contaminants in the WEL list (Attachment A) and the NTGC list (Attachment B) have restrictions on their supply, use, handling and storage as they are classified as prohibited or restricted carcinogens or restricted hazardous chemicals. These contaminants have been identified in the appendices.

The complete list of prohibited and restricted carcinogens and restricted hazardous chemicals can be found in [Schedule 10 to the model WHS Regulations](https://www.safeworkaustralia.gov.au/doc/model-whs-regulations).

* + - 1. Non-threshold genotoxic carcinogens

During the development of the WEL, some airborne contaminants were identified as non-threshold genotoxic carcinogens (NTGCs). Exposure to these chemicals can cause genetic damage and may lead to cancer. Unlike other airborne contaminants, a practical, protective exposure level cannot be assigned for NTGCs due to limited data and the nature of their effects. Therefore, WEL have not been specified for chemicals identified as NTGCs (see Appendix B). Until 30 November 2026, PCBUs must continue to ensure that the WES, including those specified for any of the NTGCs, is not exceeded.

From 1 December 2026, there will no longer be exposure limits for NTGCs. If NTGCs are present, PCBUs must either eliminate them from the workplace, replace them with a safer alternative if possible, or reduce the risk as much as reasonably practicable. Where NTGCs are included in Schedules 10 and/or 14 to the model WHS Regulations, they are also subject to additional regulatory requirements.

* + 1. Workplace exposure limits

The following information is provided to assist with the interpretation of the list of airborne contaminants and their corresponding WEL at Appendix A.

* + - 1. Types of exposure limits

There are three different kinds of exposure limits used in Appendix A:

* 8-hour time weighted average (TWA),
* short term exposure limit (STEL), and
* peak limitation.

Some airborne contaminants have more than one kind of exposure limit, e.g., a TWA and a peak limitation. For these contaminants, all relevant exposure limits apply at the same time.

8-hour time weighted average (TWA)

The TWA is the maximum average concentration of an airborne contaminant calculated for an eight-hour working day, based on a 5-day working week (40 hours). A worker must not be exposed to a level above the TWA over the course of an 8-hour working day.

The TWA limit is intended to protect most workers from long-term health effects of exposure to airborne contaminants.

|  |
| --- |
| The basic formula for calculating a worker’s 8-hour time-weighted exposure is:  where the exposure level and length of exposure are determined from the exposure occurring in a 40-hour week. |

During daily work, a worker may be exposed to levels higher than the TWA for short periods, provided their overall exposure over the 8-hour working day remains lower than the TWA. However, worker exposure must never be higher than any short-term exposure limit (STEL) or peak limitation for that airborne contaminant – even if the worker’s exposure would be less than the TWA exposure limit.

Where workers have a working day longer than 8 hours, work more than 40 hours a week or have less than 16 hours between shifts, the PCBU may need to adjust the TWA to a lower exposure level. A lower exposure level would protect workers who are working longer hours and have less recovery time between shifts.

A TWA cannot be adjusted to a higher exposure limit for shorter shifts.

PCBUs should seek assistance from a qualified professional to calculate shift adjustments.

Short term exposure limit (STEL)

A STEL is the time weighted average maximum concentration of an airborne contaminant calculated over a 15minute period. It is intended to protect most workers from the acute effects of exposure.

Worker exposure must not be higher than the STEL at any time, even if the overall exposure during the workday is less than the TWA exposure limit. Exposures at the STEL must not be longer than 15 minutes and cannot happen more than 4 times per day. There must be at least 60 minutes between each exposure at the STEL.

A STEL cannot be adjusted for longer or shorter working days.

Peak limitation

A peak limitation is the maximum or peak concentration of an airborne contaminant measured over the shortest time possible, and not exceeding 15 minutes. Exposure above the peak limitation can cause immediate and severe health effects, even if the exposure is very short. Exposure above the peak limitation is not allowed at any time.

A peak limitation cannot be adjusted for longer or shorter working days.

* + - 1. Measuring airborne contaminants

Units of measurement

Exposure limits for fumes and dusts (particulate contaminants) are written in milligrams of contaminant per cubic metre of air (mg/m3). For particulate contaminants, the WEL applies to the inhalable fraction of particles in the air, unless the WEL list states that it applies to the respirable fraction.

The inhalable fraction is made up of small particles that can easily enter the nose, mouth and lungs through breathing. The respirable fraction (or respirable dust) is the very fine particles that can be breathed deep into the lower lungs. The respirable fraction is part of the inhalable fraction.

Some exposure limits for fibres, like asbestos and synthetic mineral fibres, are measured as fibres per millilitre of air (f/mL) for the respirable fraction.

Exposure limits for gases and vapours are expressed as the number of parts of the vapour or gas contaminant per million parts of air (ppm). When a WEL is given in both ppm and mg/m3, the ppm number should be considered exact and the mg/m3 used as a guide.

* + - 1. Advisory notations

Both appendices include advisory notations as shown in the table below. Notations provide PCBUs with information about the additional risks some airborne contaminants pose.

|  |  |
| --- | --- |
| Notation | Definition |
| Sk | Absorption through the skin may be a significant source of exposure.  Extra control measures should be used to minimise the risk of skin contact. These control measures could include gloves, protective clothing, safety eyewear and closed systems to transfer liquids or gases. |
| DSEN | Substances that cause sensitisation through dermal (skin) absorption are given the notation ‘DSEN’. Substances that cause sensitisation through respiratory tract absorption are given the notation ‘RSEN’.  Sensitisation can occur even when workers are exposed to low levels of a chemical over extended periods of time. Once sensitised, a worker may react to the chemical, even when airborne concentrations of the chemicals are below the exposure limit. In these circumstances, sensitised workers must not be exposed further to the substance. |
| RSEN |
| OTO | Ototoxic. Exposure can increase the risk of hearing loss.  Hearing loss is more likely to occur if a worker is exposed to both noise and ototoxic substances than if exposed to just noise or the ototoxic substance alone.  Refer to the [*Model Code of Practice: Managing noise and preventing hearing loss at work*](https://www.safeworkaustralia.gov.au/sites/default/files/2020-07/model_code_of_practice_managing_noise_and_preventing_hearing_loss_at_work.pdf)*.* |

Notations are advisory only and do not cover all hazards related to the chemical. The safety data sheets (SDS) and/or [HCIS](http://hcis.safeworkaustralia.gov.au/) are the best source of information for the hazard classification of a given substance or mixture used in the workplace.

* + - 1. Notes

The WEL list at Appendix A includes a range of notes as follows.

|  |  |
| --- | --- |
| Note | Further information |
| a | Containing no asbestos and < 1% crystalline silica. |
| b | Fibres longer than 5 μm, width less than 3 μm and with an aspect ratio of not less than 3:1, as measured by the membrane filter method, at 400-650X magnification phase contrast illumination. |
| c | Fibres longer than 5 μm, width less than 3 μm and with an aspect ratio of not less than 3:1, as measured by the membrane filter method, at 400-650X magnification phase contrast illumination. |
| d | For the two substances marked with this note (benomyl and sodium azide), the exposure limits are established as gravimetric (mg/m³) values and converted into volumetric values. |
| e | Workers exposed to this chemical may require specific health monitoring (see regulations 368-378, Schedule 14 to the model WHS Regulations). |
| f | The use, handling and storage of this chemical is subject to restriction or prohibition (see regulations 340, 380 - 384 and Schedule 10 to the model WHS Regulations). |
| g | Man-Made Mineral Fibres (MMVF) with random orientation, alkaline oxide and alkali earth oxide (Na2O+K2O+CaO+ MgO+BaO) content less or equal to 18% by weight. |
| h | As described in *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 81, Man-Made Vitreous Fibres*, pp. 45-54, 2002, IARCPress, Lyon, France (<http://monographs.iarc.fr/ENG/Monographs/vol81/index.php>). |
| i | MMVF with random orientation, alkaline oxide and alkali earth oxide (Na2O+K2O+CaO+MgO+BaO) content greater than 18% by weight. |
| j | Low biopersistence fibres are synthetic mineral fibres (Man-Made Vitreous (Silicate) Fibres) that have been tested according to the test protocol Methods for the Determination of the Hazardous Properties for Human Health of Man Made Mineral Fibres April 1999 ([EUR 18748 EN](https://publications.jrc.ec.europa.eu/repository/handle/JRC18422)) and found to comply with at least one of the following tests:   * a short term biopersistence test by inhalation shows that the fibres longer than 20 μm have a weighted half-life less than 10 days; or * a short term biopersistence test by intratracheal instillation shows that the fibres longer than 20 μm have a weighted half-life less than 40 days; or * an appropriate intra-peritoneal test shows no evidence of excess carcinogenicity for the fibres; or * a suitable long term inhalation test demonstrates there is an absence of relevant pathogenicity or neoplastic changes |

# Appendix A – Workplace Exposure Limits

| **Chemical name** | **Synonym** | **CAS No.** | **TWA** | | **STEL** | | **Peak limit** | | **Advisory notation** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ppm** | **mg/m3** | **ppm** | **mg/m3** | **ppm** | **mg/m3** |
| Acetaldehyde |  | 75-07-0 | 20 | 36 | 50 | 91 |  |  |  |  |
| Acetic acid | Ethanoic acid; Glacial acetic acid | 64-19-7 | 10 | 25 | 15 | 37 |  |  |  |  |
| Acetic anhydride |  | 108-24-7 | 0.5 | 2.1 | 1 | 4.2 |  |  |  |  |
| Acetone | 2-Propanone | 67-64-1 | 250 | 594 | 500 | 1187 |  |  |  |  |
| Acetonitrile | Methylcyanide | 75-05-8 | 20 | 34 |  |  |  |  | Sk |  |
| Acetylsalicylic acid | Aspirin | 50-78-2 | 0.68 | 5 |  |  |  |  | OTO |  |
| Acrolein | 2-Propenal; Acrylaldehyde | 107-02-8 | 0.02 | 0.05 | 0.05 | 0.12 |  |  | Sk |  |
| Acrylic acid | 2-Propenoic acid | 79-10-7 | 10 | 29 |  |  |  |  | Sk |  |
| Allyl alcohol | 2-Propen-1-ol | 107-18-6 | 1 | 2.4 | 4 | 9.5 |  |  | Sk |  |
| Allyl propyl disulfide | Disulfide, 2-propenyl propyl | 2179-59-1 | 2 | 12 | 3 | 18 |  |  |  |  |
| Aluminium (metal dust) |  | 7429-90-5 |  | 10 |  |  |  |  |  |  |
| Aluminium (welding fumes) (as Al) |  | 7429-90-5 |  | 5 |  |  |  |  |  |  |
| Aluminium oxide (including alpha-alumina) |  | 1344-28-1 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Aluminium, alkyls (NOC) (as Al) |  | 7429-90-5 |  | 2 |  |  |  |  |  |  |
| Aluminium, pyro powders (as Al) |  | 7429-90-5 |  | 5 |  |  |  |  |  |  |
| Aluminium, soluble salts (as Al) |  | 7429-90-5 |  | 2 |  |  |  |  |  |  |
| 2-Aminopyridine | 2-Pyridylamine | 504-29-0 | 0.5 | 2 |  |  |  |  | Sk |  |
| Amitrole | 3-Amino-1,2,4-triazole | 61-82-5 |  | 2 |  |  |  |  |  |  |
| Ammonia |  | 7664-41-7 | 20 | 14 | 35 | 24 |  |  |  |  |
| Ammonium chloride (fume) |  | 12125-02-9 |  | 10 |  | 20 |  |  |  |  |
| Ammonium perfluorooctanoate | Octanoic acid, pentadecafluoro-, ammonium salt | 3825-26-1 |  | 0.01 |  |  |  |  | Sk |  |
| Ammonium sulphamate | Sulfamic acid, monoammonium salt | 7773-06-0 |  | 10 |  |  |  |  |  |  |
| Amyl acetate (iso-, n-, sec- isomers) |  | 123-92-2  628-63-7  626-38-0 | 50 | 270 | 100 | 541 |  |  |  |  |
| Aniline and homologues |  | 62-53-3 | 0.5 | 1.94 |  |  |  |  | DSEN Sk |  |
| Antimony and compounds (excluding antimony trioxide) |  | 7440-36-0 |  | 0.5 |  |  |  |  |  | [e f](#_Toc125022441) |
| Antimony trioxide, handling and use (as Sb) |  | 1309-64-4 |  | 0.5 |  |  |  |  |  | [e](#_Toc125022441) |
| ANTU | 1-Naphthylthiourea | 86-88-4 |  | 0.3 |  |  |  |  |  |  |
| Arsenic and compounds (except arsine) |  |  |  | 0.01 |  |  |  |  | OTO | [f](#_Toc125022441) |
| Arsine |  | 7784-42-1 | 0.05 | 0.16 |  |  |  |  |  |  |
| Asbestos |  | 1332-21-4 |  |  |  |  |  |  |  | [b e](#_Toc125022441) |
| ►Amosite |  | 12172-73-5 | 0.1 f/mL | |  |  |  |  |  | [b e](#_Toc125022441) |
| ►Chrysotile |  | 12001-29-5 | 0.1 f/mL | |  |  |  |  |  | [b e](#_Toc125022441) |
| ►Crocidolite |  | 12001-28-4 | 0.1 f/mL | |  |  |  |  |  | [b e](#_Toc125022441) |
| ►Other forms of asbestos |  |  | 0.1 f/mL | |  |  |  |  |  | [b  e](#_Toc125022441) |
| ►Any mixture of these, or where the composition is unknown |  |  | 0.1 f/mL | |  |  |  |  |  | [b e](#_Toc125022441) |
| Atrazine |  | 1912-24-9 |  | 1 |  |  |  |  | DSEN Sk |  |
| Azinphos-methyl | Guthion | 86-50-0 |  | 1 |  |  |  |  | DSEN OTO Sk |  |
| Barium and soluble compounds |  |  |  | 0.5 |  |  |  |  |  |  |
| Barium sulfate (inhalable) |  | 7727-43-7 |  | 4 |  |  |  |  |  | [a](#_Toc125022441) |
| Barium sulfate (respirable) |  | 7727-43-7 |  | 1.35 |  |  |  |  |  | [a](#_Toc125022441) |
| Benomyl | Benlate | 17804-35-2 | 0.08 | 1 |  |  |  |  | DSEN | [d](#_Toc125022441) |
| Benzene |  | 71-43-2 | 1 | 3.2 |  |  |  |  | Sk | [e](#_Toc125022441)  [f](#_Toc125022441) |
| Benzoyl chloride | alpha-Chlorotoluene | 98-88-4 |  |  |  |  | 0.5 | 2.8 | DSEN |  |
| Benzoyl peroxide | Dibenzoyl peroxide | 94-36-0 |  | 5 |  |  |  |  | DSEN |  |
| Benzyl chloride | Benzene, (chloromethyl)- | 100-44-7 | 1 | 5.2 |  |  |  |  | DSEN |  |
| Beryllium and compounds |  | 7440-41-7 |  | 0.00002 |  | 0.0002 |  |  | DSEN RSEN Sk | [e f](#_Toc125022441) |
| Biphenyl | Diphenyl;  Phenylbenzene | 92-52-4 | 0.2 | 1.3 |  |  |  |  |  |  |
| Bismuth telluride | Dibismuth tritelluride | 1304-82-1 |  | 10 |  |  |  |  |  |  |
| Bismuth telluride, Se-doped |  | 1304-82-1 |  | 5 |  |  |  |  |  |  |
| Bisphenol-A | BPA | 80-05-7 |  | 2 |  |  |  |  | DSEN |  |
| Bitumen fumes | Asphalt (petroleum) | 8052-42-4 |  | 0.5 |  |  |  |  |  | [e](#_Toc125022441) |
| Borates, tetra, sodium salts, incl anhydrous, decahydrate, pentahydrate |  | 10043-35-3 1330-43-4 1303-96-4 12179-04-3 |  | 0.75 |  |  |  |  |  |  |
| Boron oxide | Diboron trioxide | 1303-86-2 |  | 10 |  |  |  |  |  |  |
| Boron tribromide |  | 10294-33-4 |  |  |  |  | 0.7 | 7.19 |  |  |
| Boron trifluoride |  | 7637-07-2 | 0.1 | 0.28 |  |  | 0.7 | 1.95 |  |  |
| Bromacil |  | 314-40-9 | 1 | 11 |  |  |  |  |  |  |
| Bromine |  | 7726-95-6 | 0.1 | 0.66 | 0.3 | 2 |  |  |  |  |
| Bromine pentafluoride |  | 7789-30-2 | 0.1 | 0.72 |  |  |  |  |  |  |
| Bromoform | Tribromomethane | 75-25-2 | 0.5 | 5.2 |  |  |  |  |  |  |
| 1-Bromopropane |  | 106-94-5 | 0.1 | 0.5 |  |  |  |  |  |  |
| But-2-yne-1,4-diol |  | 110-65-6 |  | 0.5 |  |  |  |  | DSEN Sk |  |
| Butane |  | 106-97-8 | 800 | 1900 |  |  |  |  |  |  |
| 2-Butoxyethanol | Butyl cellosolve; Butyl glycol; Ethylene glycol monobutyl ether | 111-76-2 | 10 | 49 | 40 | 196 |  |  | Sk |  |
| 2-Butoxyethyl acetate |  | 112-07-2 | 20 | 133 |  |  |  |  |  |  |
| n-Butyl acetate  sec-Butyl acetate  tert-Butyl acetate  iso-Butyl acetate |  | 123-86-4  105-46-4  540-88-5  110-19-0 | 50 | 270 | 100 | 541 |  |  |  |  |
| n-Butyl acrylate | Acrylic acid, butyl ester; 2-Propenoic acid, butyl ester | 141-32-2 | 1 | 5 | 5 | 26 |  |  | DSEN Sk |  |
| n-Butyl alcohol | 1-Butanol | 71-36-3 | 20 | 61 |  |  |  |  | OTO |  |
| sec-Butyl alcohol | 2-Butanol | 78-92-2 | 100 | 303 |  |  |  |  |  |  |
| tert-Butyl alcohol | 2-Propanol, 2-methyl-; tert-Butanol | 75-65-0 | 20 | 62 |  |  |  |  |  |  |
| tert-Butyl chromate |  | 1189-85-1 |  |  |  |  |  | 0.1 | Sk |  |
| n-Butyl glycidyl ether | Oxirane, (butoxymethyl)-; BGE | 2426-08-6 | 3 | 16 |  |  |  |  | DSEN Sk |  |
| n-Butyl lactate | Propanoic acid, 2-hydroxy-, butyl ester | 138-22-7 | 5 | 30 |  |  |  |  |  |  |
| Butyl mercaptan | 1-Butanethiol | 109-79-5 | 0.5 | 1.8 |  |  |  |  |  |  |
| Butylamine | 1-Butanamine | 109-73-9 |  |  |  |  | 5 | 15 | Sk |  |
| o-sec-Butylphenol | Phenol, 2-(1-methylpropyl)- | 89-72-5 | 5 | 31 |  |  |  |  | Sk |  |
| p-tert-Butyltoluene | Benzene, 1-(1,1-dimethylethyl)-4-methyl- | 98-51-1 | 10 | 61 | 20 | 121 |  |  | OTO |  |
| Cadmium and compounds (as Cd) |  |  |  | 0.001 |  |  |  |  | OTO | [e f](#_Toc125022441) |
| Caesium hydroxide | Cesium hydroxide; Cs(OH) | 21351-79-1 |  | 2 |  |  |  |  |  |  |
| Calcium carbonate | Carbonic acid, calcium salt (1:1); Limestone; Marble | 471-34-1 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Calcium cyanamide | Calcium carbimide | 156-62-7 |  | 0.2 |  |  |  |  | Sk |  |
| Calcium hydroxide | Slaked lime | 1305-62-0 |  | 1 |  | 4 |  |  |  |  |
| Calcium oxide | Lime | 1305-78-8 |  | 1 |  |  |  |  |  |  |
| Calcium silicate | Silicic acid, calcium salt | 1344-95-2 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Calcium sulfate | Sulfuric acid, calcium salt (1:1) | 7778-18-9 |  | 1.5 |  |  |  |  |  | [a](#_Toc125022441) |
| Camphor, synthetic |  | 76-22-2 | 2 | 12 |  |  |  |  | DSEN |  |
| Caprolactam (dust and vapour) (incl. e caprolactam) | 2H-Azepin-2-one, hexahydro- | 105-60-2 |  | 5 |  |  |  |  |  |  |
| Captafol | Difolatan | 2425-06-1 |  | 0.1 |  |  |  |  | DSEN Sk |  |
| Captan |  | 133-06-2 |  | 0.5 |  |  |  |  | DSEN |  |
| Carbaryl | Sevin | 63-25-2 |  | 0.5 |  |  |  |  | Sk |  |
| Carbofuran | Furadan | 1563-66-2 |  | 0.1 |  |  |  |  |  |  |
| Carbon black |  | 1333-86-4 |  | 3 |  |  |  |  |  | [e](#_Toc125022441) |
| Carbon dioxide |  | 124-38-9 | 5000 | 9000 | 30000 | 54000 |  |  |  |  |
| Carbon disulfide | Carbon bisulfide | 75-15-0 | 1 | 3.13 |  |  |  |  | OTO Sk | [e f](#_Toc125022441) |
| Carbon monoxide |  | 630-08-0 | 20 | 23 |  |  |  |  | OTO |  |
| Carbon tetrabromide | Tetrabromomethane | 558-13-4 | 0.1 | 1.4 | 0.3 | 4.1 |  |  |  |  |
| Carbon tetrachloride | Tetrachloromethane | 56-23-5 | 0.1 | 0.63 | 5 | 32 |  |  | Sk |  |
| Carbonyl fluoride |  | 353-50-4 | 2 | 5.4 | 5 | 13 |  |  |  |  |
| Cellulose (paper fibre) |  | 9004-34-6 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Chlorinated camphene |  | 8001-35-2 |  | 0.5 |  | 1 |  |  | Sk |  |
| Chlorinated diphenyl oxide |  | 31242-93-0 |  | 0.5 |  |  |  |  |  |  |
| Chlorine |  | 7782-50-5 |  |  |  |  | 1 | 3 |  |  |
| Chlorine dioxide |  | 10049-04-4 | 0.1 | 0.28 | 0.3 | 0.83 |  |  |  |  |
| Chlorine trifluoride |  | 7790-91-2 |  |  |  |  | 0.1 | 0.38 |  |  |
| 1-Chloro-1-nitropropane |  | 600-25-9 | 2 | 10 |  |  |  |  |  |  |
| Chloroacetaldehyde |  | 107-20-0 |  |  |  |  | 1 | 3.2 |  |  |
| Chloroacetone | 2-Propanone, 1-chloro- | 78-95-5 |  |  |  |  | 1 | 3.8 | Sk |  |
| alpha-Chloroacetophenone | Ethanone, 2-chloro-1-phenyl- | 532-27-4 | 0.02 | 0.1 | 0.05 | 0.3 |  |  |  |  |
| Chloroacetyl chloride |  | 79-04-9 | 0.05 | 0.23 | 0.15 | 0.69 |  |  | Sk |  |
| Chlorobenzene |  | 108-90-7 | 5 | 23 |  |  |  |  |  |  |
| o-Chlorobenzylidene malononitrile |  | 2698-41-1 |  | 0.02 |  |  |  |  | Sk |  |
| Chlorobromomethane |  | 74-97-5 | 200 | 1060 |  |  |  |  |  |  |
| Chlorodifluoromethane | Algofrene 22; Fluorocarbon 22; Freon 22 | 75-45-6 | 1000 | 3540 |  |  |  |  |  |  |
| Chloroform | Trichloromethane | 67-66-3 | 0.5 | 2.5 |  |  |  |  | Sk |  |
| Chloropentafluoroethane | Fluorocarbon 115; Freon 115 | 76-15-3 | 1000 | 6320 |  |  |  |  |  |  |
| Chloropicrin |  | 76-06-2 | 0.1 | 0.67 |  |  |  |  |  |  |
| 2-Chloropropionic acid | Propanoic acid, 2-chloro- | 598-78-7 | 0.1 | 0.44 |  |  |  |  | Sk |  |
| o-Chlorostyrene |  | 2039-87-4 | 50 | 283 | 75 | 425 |  |  |  |  |
| Chlorosulphonic acid | Chlorosulfuric acid | 7790-94-5 | 0.209 | 1 |  |  |  |  |  |  |
| Chlorpyrifos |  | 2921-88-2 | 0.007 | 0.1 |  |  |  |  | OTO Sk | [e](#_Toc125022441) |
| o-Chlorotoluene | Benzene, 1-chloro-2-methyl- | 95-49-8 | 50 | 259 |  |  |  |  |  |  |
| Chromium (metal), (II), (III) (as Cr) |  | 7440-47-3 |  | 0.5 |  |  |  |  |  |  |
| Clopidol | Coyden | 2971-90-6 |  | 2 |  |  |  |  |  |  |
| Coal dust (containing < 5% quartz) (respirable dust) |  |  |  | 1.5 |  |  |  |  |  |  |
| Cobalt carbonyl (as Co) |  | 10210-68-1 |  | 0.1 |  |  |  |  |  | [e](#_Toc125022441) |
| Cobalt hydrocarbonyl (as Co) |  | 16842-03-8 |  | 0.1 |  |  |  |  |  | [e](#_Toc125022441) |
| Cobalt (metal and inorganic compounds) |  | 7440-48-4 |  | 0.02 |  |  |  |  | DSEN RSEN | [e f](#_Toc125022441) |
| Copper (fume) |  | 7440-50-8 |  | 0.2 |  |  |  |  |  |  |
| Copper (dusts and mists) (as Cu) |  | 7440-50-8 |  | 1 |  |  |  |  |  |  |
| Cotton dust, raw |  |  |  | 0.1 |  |  |  |  |  | [c](#_Toc125022441) |
| Cresol, all isomers m-cresol o-cresol p-cresol |  | 1319-77-3 108-39-4 95-48-7 106-44-5 | 5 | 22 |  |  |  |  | Sk |  |
| Crotonaldehyde | 2-Butenal | 4170-30-3 | 2 | 5.7 |  |  |  |  | Sk |  |
| Crufomate |  | 299-86-5 |  | 5 |  |  |  |  |  |  |
| Cumene | Benzene, (1-methylethyl)- | 98-82-8 | 25 | 125 | 75 | 375 |  |  |  |  |
| Cyanamide |  | 420-04-2 |  | 0.2 |  |  |  |  | DSEN Sk |  |
| Cyanides (as CN) |  | 57-12-5 |  | 1 |  | 5 |  |  | OTO Sk |  |
| Cyanoacrylates (Ethyl and Methyl) |  | 7085-85-0  137-05-3 | 0.2 | 1 | 1 | 5.1 |  |  | Sk |  |
| Cyanogen | Oxalonitrile | 460-19-5 |  |  |  |  | 5 | 10.6 |  |  |
| Cyanogen chloride |  | 506-77-4 |  |  |  |  | 0.3 | 0.75 |  |  |
| Cyclohexane |  | 110-82-7 | 100 | 350 |  |  |  |  |  |  |
| Cyclohexanol | Hexahydrophenol; Hexalin | 108-93-0 | 50 | 206 |  |  |  |  | Sk |  |
| Cyclohexanone | Anone | 108-94-1 | 10 | 40 | 20 | 80 |  |  | Sk |  |
| Cyclohexene | 1,2,3,4-Tetrahydrobenzene | 110-83-8 | 300 | 1010 |  |  |  |  |  |  |
| Cyclohexylamine | Cyclohexanamine | 108-91-8 | 2 | 8.2 |  |  |  |  | Sk |  |
| Cyclonite | 1,3,5-Triazine, hexahydro-1,3,5-trinitro- | 121-82-4 |  | 0.1 |  |  |  |  | Sk |  |
| Cyclopentadiene |  | 542-92-7 | 75 | 203 |  |  |  |  |  |  |
| Cyclopentane |  | 287-92-3 | 600 | 1720 |  |  |  |  |  |  |
| Cyhexatin | Plictran; Tricyclohexyltin hydroxide | 13121-70-5 |  | 5 |  |  |  |  |  |  |
| 2,4-D | 2,4-Dichlorophenoxy acetic acid | 94-75-7 |  | 10 |  |  |  |  | Sk |  |
| Decaborane |  | 17702-41-9 | 0.05 | 0.25 | 0.15 | 0.75 |  |  | Sk |  |
| Demeton |  | 8065-48-3 | 0.01 | 0.1 |  |  |  |  | Sk |  |
| Diacetone alcohol | 2-Pentanone, 4-hydroxy-4-methyl- | 123-42-2 | 20 | 96 |  |  |  |  | Sk |  |
| Diacetyl | 2,3-Butanedione | 431-03-8 | 0.01 | 0.04 | 0.02 | 0.07 |  |  | Sk |  |
| Diazinon |  | 333-41-5 |  | 0.01 |  |  |  |  | OTO Sk |  |
| Diazomethane |  | 334-88-3 | 0.2 | 0.34 |  |  |  |  | Sk |  |
| Diborane |  | 19287-45-7 | 0.01 | 0.01 |  |  |  |  |  |  |
| Dibutyl phenyl phosphate | Phosphoric acid, dibutyl phenyl ester | 2528-36-1 | 0.3 | 3.5 |  |  |  |  | OTO Sk |  |
| Dibutyl phosphate | Phosphoric acid, dibutyl ester | 107-66-4 | 0.6 | 5 |  |  |  |  | OTO |  |
| Dibutyl phthalate | 1,2-Benzenedicarboxylic acid, dibutyl ester | 84-74-2 | 0.05 | 0.58 |  |  |  |  |  |  |
| 2-N-Dibutylaminoethanol | Ethanol, 2-(dibutylamino)- | 102-81-8 | 0.5 | 3.5 |  |  |  |  | Sk |  |
| 1,1-Dichloro-1-nitroethane | Ethane, 1,1-dichloro-1-nitro- | 594-72-9 | 2 | 12 |  |  |  |  |  |  |
| 1,3-Dichloro-5,5-dimethyl hydantoin |  | 118-52-5 |  | 0.2 |  | 0.4 |  |  |  |  |
| Dichloroacetic acid |  | 79-43-6 | 0.5 | 2.5 |  |  |  |  | Sk |  |
| Dichloroacetylene |  | 7572-29-4 |  |  |  |  | 0.1 | 0.39 |  |  |
| o-Dichlorobenzene | Benzene, 1,2-dichloro- | 95-50-1 | 25 | 150 | 50 | 301 |  |  |  |  |
| p-Dichlorobenzene | Benzene, 1,4-dichloro- | 106-46-7 | 2 | 12 | 10 | 60 |  |  |  |  |
| Dichlorodifluoromethane |  | 75-71-8 | 1000 | 4950 |  |  |  |  |  |  |
| 1,1-Dichloroethane | Ethylidene chloride | 75-34-3 | 100 | 412 |  |  |  |  |  |  |
| Dichloroethyl ether | Ethane, 1,1'-oxybis[2-chloro- | 111-44-4 | 5 | 29 |  |  |  |  | Sk |  |
| 1,2-Dichloroethylene | Acetylene dichloride | 540-59-0 | 200 | 793 |  |  |  |  |  |  |
| Dichlorofluoromethane | Fluorocarbon 21;  Freon 21; Fluorodichloromethane | 75-43-4 | 10 | 42 |  |  |  |  |  |  |
| Dichloropropene | 1-Propene, 1,3-dichloro- | 542-75-6 | 1 | 4.5 |  |  |  |  | DSEN Sk |  |
| 2,2-Dichloropropionic acid | Dalapon | 75-99-0 | 1 | 5.8 |  |  |  |  | Sk |  |
| Dichlorotetrafluoroethane | Cryofluorane; Fluorocarbon 114; Freon 114; R-114; Tetrafluoro-dichloroethane | 76-14-2 | 1000 | 6990 |  |  |  |  |  |  |
| Dichlorvos | DDVP | 62-73-7 | 0.01 | 0.1 |  |  |  |  | DSEN OTO Sk |  |
| Dicrotophos | Bidrin | 141-66-2 |  | 0.25 |  |  |  |  | OTO Sk |  |
| Dicyclopentadiene |  | 77-73-6 | 0.5 | 2.7 |  |  |  |  |  |  |
| Dicyclopentadienyl iron | Ferrocene | 102-54-5 |  | 0.1 |  |  |  |  |  |  |
| Diesel particulate matter (as respirable elemental carbon) |  |  |  | 0.01 |  |  |  |  |  |  |
| Diethanolamine | Ethanol, 2,2'-iminobis- | 111-42-2 | 0.11 | 0.5 |  |  |  |  | Sk |  |
| Diethyl ketone | 3-Pentanone | 96-22-0 | 200 | 705 | 300 | 1057 |  |  |  |  |
| Diethyl pthalate | 1,2-Benzenedicarboxylic acid, diethyl ester | 84-66-2 |  | 5 |  |  |  |  |  |  |
| Diethylamine | Ethanamine, N-ethyl- | 109-89-7 | 2 | 6.2 | 10 | 30 |  |  | Sk |  |
| 2-Diethylaminoethanol |  | 100-37-8 | 10 | 48 |  |  |  |  | Sk |  |
| Diethylene glycol monobutyl ether | Ethanol, 2-(2-butoxyethoxy)- | 112-34-5 | 10 | 67.5 |  |  |  |  |  |  |
| Diethylene triamine | 1,2-Ethanediamine, N-(2-aminoethyl)- | 111-40-0 | 1 | 4.2 |  |  |  |  | DSEN  Sk |  |
| Difluorodibromomethane |  | 75-61-6 | 100 | 858 |  |  |  |  |  |  |
| Diglycidyl ether | Oxirane, 2,2'-[oxybis (methylene)]bis-; DGE | 2238-07-5 | 0.1 | 0.53 |  |  |  |  |  |  |
| Diisobutyl ketone | 4-Heptanone, 2,6-dimethyl- | 108-83-8 | 25 | 145 |  |  |  |  |  |  |
| Diisopropylamine | 2-Propanamine, N-(1-methylethyl)- | 108-18-9 | 5 | 21 |  |  |  |  | Sk |  |
| Dioxathion |  | 78-34-2 |  | 0.2 |  |  |  |  | Sk |  |
| Dimethyl acetamide | Acetamide, N,N-dimethyl- | 127-19-5 | 10 | 36 |  |  |  |  | Sk |  |
| Dimethyl ether | Methane, oxybis- | 115-10-6 | 400 | 760 | 500 | 950 |  |  |  |  |
| Dimethyl sulfide | Methane, thiobis- | 75-18-3 | 10 | 25 |  |  |  |  |  |  |
| Dimethylamine | Methanamine, N-methyl- | 124-40-3 | 2 | 3.8 |  |  |  |  |  |  |
| Dimethylaminoethanol | Ethanol, 2-(dimethylamino)- | 108-01-0 | 2 | 7.4 | 6 | 22 |  |  | DSEN |  |
| N,N-Dimethylaniline | Benzenamine, N,N-dimethyl- | 121-69-7 | 5 | 25 | 10 | 50 |  |  | Sk |  |
| N,N-Dimethylethylamine | Ethanamine, N,N-dimethyl- | 598-56-1 | 2 | 6 |  |  |  |  |  |  |
| Dimethylformamide | Formamide, N,N-dimethyl- | 68-12-2 | 5 | 15 |  |  |  |  | Sk |  |
| 1,1-Dimethylhydrazine |  | 57-14-7 | 0.01 | 0.025 |  |  |  |  | Sk |  |
| Dimethylphthalate |  | 131-11-3 |  | 5 |  |  |  |  |  |  |
| Dinitolmide | 3,5-Dinitro-o-toluamide; Zoalene | 148-01-6 |  | 1 |  |  |  |  |  |  |
| Dinitrobenzene (m-, o-, p-isomers) |  | 99-65-0 528-29-0 100-25-4 | 0.15 | 1 |  |  |  |  | Sk |  |
| Dinitro-o-cresol |  | 534-52-1 |  | 0.2 |  |  |  |  | DSEN Sk |  |
| 1,4-Dioxane | 1,4-Diethylene dioxide | 123-91-1 | 5 | 18 |  |  |  |  | Sk |  |
| 1,3-Dioxolane |  | 646-06-0 | 20 | 61 |  |  |  |  |  |  |
| Diphenylamine | Benzenamine, N-phenyl- | 122-39-4 |  | 5 |  |  |  |  | Sk |  |
| Dipropyl ketone | 4-Heptanone | 123-19-3 | 50 | 233 |  |  |  |  |  |  |
| Diquat (inhalable) | Diquat dibromide (ISO) | 85-00-7 |  | 0.5 |  |  |  |  | DSEN |  |
| Diquat (respirable) | Diquat dibromide (ISO) | 85-00-7 |  | 0.1 |  |  |  |  | DSEN |  |
| Di-sec-octyl phthalate | DOP | 117-81-7 |  | 2 |  |  |  |  |  |  |
| Disulfiram | Tetraethylthiuram disulfide | 97-77-8 |  | 2 |  |  |  |  | DSEN |  |
| Disulfoton |  | 298-04-4 |  | 0.02 |  |  |  |  | OTO  Sk |  |
| 2,6-Di-tert-butyl-p-cresol | Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- | 128-37-0 |  | 10 |  |  |  |  | Sk |  |
| Diuron | Urea, N'-(3,4-dichlorophenyl)-N,N-dimethyl- | 330-54-1 |  | 10 |  |  |  |  |  |  |
| Divinyl benzene | Benzene, diethenyl- | 1321-74-0 | 10 | 53 |  |  |  |  |  |  |
| Emery (dust) |  | 1302-74-5 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Endosulfan |  | 115-29-7 |  | 0.1 |  |  |  |  | Sk |  |
| Enflurane | Ethane, 2-chloro-1-(difluoromethoxy)-1,1,2-trifluoro- | 13838-16-9 | 20 | 150 |  |  |  |  |  |  |
| Epichlorohydrin | Oxirane, (chloromethyl)- | 106-89-8 | 0.5 | 1.9 |  |  |  |  | DSEN Sk |  |
| O-Ethyl O-(4-nitrophenyl) phenylphosphonothioate | EPN | 2104-64-5 |  | 0.1 |  |  |  |  | Sk |  |
| Ethanolamine | Ethanol, 2-amino- | 141-43-5 | 3 | 7.5 | 6 | 15 |  |  | Sk |  |
| Ethion | Nialate | 563-12-2 |  | 0.05 |  |  |  |  | OTO Sk | [e](#_Toc125022441) |
| 2-Ethoxyethanol | Ethylene glycol, ethyl ether | 110-80-5 | 2 | 7.6 |  |  |  |  | Sk |  |
| 2-Ethoxyethyl acetate | Cellosolve acetate; Ethylene glycol, ethyl ether acetate; Ethylglycolacetate | 111-15-9 | 2 | 10.9 |  |  |  |  | Sk |  |
| 2-Ethylhexanoic acid |  | 149-57-5 |  | 5 |  |  |  |  |  |  |
| 2-Ethylhexanol |  | 104-76-7 | 1 | 5.33 |  |  |  |  |  |  |
| Ethyl acetate | Acetic acid, ethyl ester | 141-78-6 | 200 | 720 | 400 | 1440 |  |  |  |  |
| Ethyl acrylate | 2-Propenoic acid, ethyl ester | 140-88-5 | 2 | 8.31 | 5 | 20 |  |  | DSEN |  |
| Ethyl alcohol | Ethanol | 64-17-5 | 200 | 380 | 800 | 1500 |  |  | OTO |  |
| Ethyl benzene |  | 100-41-4 | 20 | 87 |  |  |  |  | OTO | [e](#_Toc125022441) |
| Ethyl bromide | Ethane, bromo- | 74-96-4 | 5 | 22 |  |  |  |  | Sk |  |
| Ethyl butyl ketone | 3-Heptanone | 106-35-4 | 50 | 234 | 75 | 350 |  |  |  |  |
| Ethyl chloride | Ethane, chloro- | 75-00-3 | 100 | 264 |  |  |  |  | Sk |  |
| Ethyl ether | Ethane, 1,1'-oxybis- | 60-29-7 | 400 | 1210 | 500 | 1520 |  |  |  |  |
| Ethyl formate | Formic acid, ethyl ester | 109-94-4 | 100 | 303 | 150 | 462 |  |  |  |  |
| Ethyl mercaptan | Ethanethiol | 75-08-1 | 0.5 | 1.3 |  |  |  |  |  |  |
| Ethyl silicate | Silicic acid (H4SiO4), tetraethyl ester | 78-10-4 | 5 | 44 |  |  |  |  |  |  |
| Ethylamine | Ethanamine | 75-04-7 | 5 | 9 | 15 | 28 |  |  | Sk |  |
| Ethylene chlorohydrin | Ethanol, 2-chloro- | 107-07-3 |  |  |  |  | 1 | 3.3 | Sk |  |
| Ethylene glycol (particulate) | 1,2-Ethanediol | 107-21-1 |  |  |  | 10 |  |  | Sk |  |
| Ethylene glycol (vapour) | 1,2-Ethanediol | 107-21-1 | 20 | 52 | 40 | 104 |  |  | Sk |  |
| Ethylene glycol dinitrate | 1,2-Ethanediol, dinitrate | 628-96-6 | 0.01 | 0.063 |  |  |  |  | Sk |  |
| Ethylene thiourea | 2-Imidazolidinethione | 96-45-7 |  | 0.02 |  |  |  |  | Sk |  |
| Ethylenediamine | 1,2-Ethanediamine | 107-15-3 | 10 | 25 |  |  |  |  | DSEN RSEN Sk |  |
| Ethylidene norbornene | Bicyclo[2.2.1]hept-2-ene, 5-ethylidene- | 16219-75-3 | 2 | 10 | 4 | 20 |  |  |  |  |
| N-Ethylmorpholine | Morpholine, 4-ethyl- | 100-74-3 | 5 | 24 |  |  |  |  | Sk |  |
| Fenamiphos (including vapour) |  | 22224-92-6 |  | 0.05 |  |  |  |  | OTO Sk | [e](#_Toc125022441) |
| Fensulfothion (including vapour) |  | 115-90-2 |  | 0.01 |  |  |  |  | OTO Sk |  |
| Fenthion |  | 55-38-9 |  | 0.2 |  |  |  |  | Sk | [e](#_Toc125022441) |
| Ferbam | Iron, tris(dimethylcarb amodithioato-S,S')-, (OC-6-11)-; Ferric dimethyl dithiocarbamate | 14484-64-1 |  | 5 |  |  |  |  |  |  |
| Ferrovanadium dust |  | 12604-58-9 |  | 1 |  | 3 |  |  |  |  |
| Flour (cereal) dust |  |  |  | 0.5 |  |  |  |  |  |  |
| Fluorides and compounds |  |  |  | 2.5 |  |  |  |  | Sk |  |
| Fluorine |  | 7782-41-4 | 1 | 1.6 | 2 | 3.1 |  |  |  | [e](#_Toc125022441) |
| Fonofos |  | 944-22-9 |  | 0.1 |  |  |  |  | Sk |  |
| Formaldehyde | Formalin;  Formic aldehyde; Methaldehyde; Methanal; Oxomethane; Oxymethylene | 50-00-0 | 1 | 1.2 | 2 | 2.5 |  |  | DSEN |  |
| Formamide |  | 75-12-7 | 10 | 18 |  |  |  |  | Sk |  |
| Formic acid |  | 64-18-6 | 5 | 9.4 | 10 | 19 |  |  |  |  |
| Furfural | 2-Furancarboxaldehyde | 98-01-1 | 0.2 | 0.8 |  |  |  |  | Sk |  |
| Furfuryl alcohol | 2-Furanmethanol | 98-00-0 | 0.2 | 0.8 |  |  |  |  | Sk |  |
| Gallium arsenide |  | 1303-00-0 |  | 0.0003 |  |  |  |  |  |  |
| Germanium tetrahydride | Germane | 7782-65-2 | 0.2 | 0.63 |  |  |  |  |  |  |
| Glutaraldehyde | Pentanedial | 111-30-8 |  |  |  |  | 0.05 | 0.2 | DSEN RSEN |  |
| Glycerin mist | 1,2,3-Propanetriol | 56-81-5 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Glycidol | Oxiranemethanol | 556-52-5 | 25 | 76 |  |  |  |  | Sk |  |
| Glyoxal | Ethanedial | 107-22-2 | 0.042 | 0.1 |  |  |  |  | DSEN Sk |  |
| Grain dust (oats, wheat, barley) |  |  |  | 1.5 |  |  |  |  |  |  |
| Graphite (all forms except fibres) (natural and synthetic) (respirable) |  | 7782-42-5 |  | 3 |  |  |  |  |  | [a](#_Toc125022441) |
| Hafnium |  | 7440-58-6 |  | 0.5 |  |  |  |  |  |  |
| Halothane | Ethane, 2-bromo-2-chloro-1,1,1-trifluoro- | 151-67-7 | 0.5 | 4.1 |  |  |  |  |  |  |
| Heptane (n-heptane) |  | 142-82-5 | 400 | 1640 | 500 | 2050 |  |  | OTO |  |
| Hexachlorobutadiene | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro- | 87-68-3 | 0.02 | 0.21 |  |  |  |  | Sk |  |
| Hexachlorocyclopentadiene | 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro- | 77-47-4 | 0.01 | 0.11 |  |  |  |  |  |  |
| Hexachloroethane |  | 67-72-1 | 1 | 9.7 |  |  |  |  |  |  |
| Hexahydrophthalic anhydride | 1,3-Isobenzofurandione, hexahydro- | 85-42-7 |  |  |  |  |  | 0.005 | DSEN RSEN |  |
| Hexachloronaphthalene |  | 1335-87-1 |  | 0.2 |  |  |  |  | Sk |  |
| Hexafluoroacetone |  | 684-16-2 | 0.1 | 0.68 |  |  |  |  | Sk |  |
| Hexamethylene diisocyanate | Hexane, 1,6-diisocyanato- | 822-06-0 |  | 0.02 |  | 0.07 |  |  | DSEN RSEN Sk | [e](#_Toc125022441) |
| Hexane (n-hexane) |  | 110-54-3 | 50 | 176 |  |  |  |  | OTO Sk |  |
| Hexane, other isomers |  |  | 500 | 1760 | 1000 | 3500 |  |  |  |  |
| sec-Hexyl acetate | 2-Pentanol, 4-methyl-, acetate | 108-84-9 | 50 | 295 |  |  |  |  |  |  |
| Hexylene glycol | 2,4-Pentanediol, 2-methyl- | 107-41-5 |  |  |  |  | 25 | 121 |  |  |
| Hydrogen bromide | Hydrobromic acid | 10035-10-6 |  |  |  |  | 3 | 9.9 |  |  |
| Hydrogen chloride | Hydrochloric acid; Muriatic acid | 7647-01-0 |  |  |  |  | 2 | 2.98 |  |  |
| Hydrogen cyanide | Hydrocyanic acid | 74-90-8 |  |  |  |  | 10 | 11 | OTO Sk |  |
| Hydrogen fluoride (as F) | Hydrofluoric acid | 7664-39-3 | 0.5 | 0.4 |  |  | 2 | 1.6 | Sk |  |
| Hydrogen peroxide |  | 7722-84-1 | 0.5 | 0.7 |  |  |  |  |  |  |
| Hydrogen selenide (as Se) |  | 7783-07-5 | 0.05 | 0.16 |  |  |  |  |  |  |
| Hydrogen sulphide |  | 7783-06-4 | 10 | 14 | 15 | 21 |  |  |  |  |
| Hydrogenated terphenyls |  | 37275-59-5 | 0.5 | 4.9 | 2 | 19 |  |  |  |  |
| Hydroquinone | 1,4-Benzenediol | 123-31-9 |  | 2 |  |  |  |  | DSEN Sk |  |
| Hydroxypropyl acrylate (all isomers) |  | 25584-83-2 999-61-1 | 0.5 | 2.8 |  |  |  |  | DSEN Sk |  |
| Indene | 1H-Indene | 95-13-6 | 10 | 48 |  |  |  |  |  |  |
| Indium and compounds (except indium phosphide) |  |  |  | 0.1 |  |  |  |  |  |  |
| Indium phosphide |  | 22398-80-7 |  | 0.1 |  |  |  |  |  |  |
| Iodine |  | 7553-56-2 | 0.01 | 0.1 |  |  | 0.1 | 1 |  |  |
| Iodoform | Methane, triiodo- | 75-47-8 | 0.6 | 10 |  |  |  |  | Sk |  |
| Iron oxide fume (Fe2O3) (as Fe) |  | 1309-37-1 |  | 5 |  |  |  |  |  |  |
| Iron pentacarbonyl (as Fe) |  | 13463-40-6 | 0.1 | 0.8 |  |  | 0.2 | 1.6 | Sk |  |
| Iron salts, soluble (as Fe) |  | 7439-89-6 |  | 1 |  |  |  |  |  |  |
| Isoamyl alcohol | 1-Butanol, 3-methyl- | 123-51-3 | 20 | 73 | 80 | 292 |  |  |  |  |
| Isobutyl alcohol | 1-Propanol, 2-methyl- | 78-83-1 | 50 | 152 |  |  |  |  |  |  |
| Isocyanates, (poly-) (as-NCO) | TDI;  2,6-TDI;  HDI;  IPDI;  MDI;  HMDI | 584-84-9  91-08-7  822-06-0  4098-71-9  101-68-8  5124-30-1 |  | 0.02 |  | 0.07 |  |  | DSEN  RSEN  Sk | [e](#_Toc125022441) |
| Isooctyl alcohol | Isooctanol | 26952-21-6 | 50 | 266 |  |  |  |  | Sk |  |
| Isophorone | 2-Cyclohexen-1-one, 3,5,5-trimethyl- | 78-59-1 |  |  |  |  | 5 | 28 |  |  |
| Isophorone diisocyanate (see isocyanates) | Cyclohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethyl- | 4098-71-9 |  | 0.02 |  | 0.07 |  |  | DSEN RSEN Sk | [e](#_Toc125022441) |
| Isopropoxyethanol | Ethanol, 2-(1-methylethoxy)- | 109-59-1 | 10 | 43 |  |  |  |  | Sk |  |
| Isopropyl alcohol | 2-Propanol | 67-63-0 | 200 | 491 | 400 | 984 |  |  |  |  |
| Isopropyl ether | Propane, 2,2'-oxybis- | 108-20-3 | 250 | 1040 | 310 | 1300 |  |  |  |  |
| Isopropyl glycidyl ether | IGE | 4016-14-2 | 50 | 238 | 75 | 356 |  |  | Sk |  |
| Isopropylamine | 2-Propanamine | 75-31-0 | 5 | 12 | 10 | 24 |  |  | Sk |  |
| N-Isopropylaniline | Benzenamine, N-(1-methylethyl)- | 768-52-5 | 2 | 11 |  |  |  |  | Sk |  |
| Kaolin | Argilla; Porcelain clay | 1332-58-7 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Ketene | Ethenone | 463-51-4 | 0.5 | 0.86 | 1.5 | 2.6 |  |  |  |  |
| Lead arsenate (as Pb3(AsO4)2) |  | 3687-31-8 |  | 0.15 |  |  |  |  | OTO | [e f](#_Toc125022441) |
| Lead, inorganic dusts and fumes (as Pb) |  | 7439-92-1 |  | 0.05 |  |  |  |  | OTO | [e f](#_Toc125022441) |
| Lindane |  | 58-89-9 | 0.008 | 0.1 |  |  |  |  | Sk |  |
| Lithium hydride |  | 7580-67-8 |  |  |  | 0.02 |  |  |  |  |
| LPG (liquified petroleum gas) |  | 68476-85-7 | 1000 | 1800 |  |  |  |  |  |  |
| Magnesite | Carbonic acid, magnesium salt (1:1) | 546-93-0 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Magnesium oxide (fume) | Calcined magnesite | 1309-48-4 |  | 10 |  |  |  |  |  |  |
| Malathion | Maldison | 121-75-5 |  | 1 |  |  |  |  | DSEN OTO Sk | [e](#_Toc125022441) |
| Maleic anhydride | 2,5-Furandione | 108-31-6 | 0.0025 | 0.01 |  |  |  |  | DSEN  RSEN  Sk |  |
| Manganese cyclopenta-dienyl tricarbonyl (as Mn) |  | 12079-65-1 |  | 0.1 |  |  |  |  | OTO |  |
| Manganese fume, dust and compounds (as Mn) (inhalable) |  | 7439-96-5 |  | 0.1 |  |  |  |  | OTO |  |
| Manganese fume, dust and compounds (as Mn) (respirable) |  | 7439-96-5 |  | 0.02 |  |  |  |  | OTO |  |
| Man-Made Vitreous (Silicate) Fibres (MMVF) | Synthetic Mineral Fibres (SMF) |  | See synthetic mineral fibres | |  |  |  |  |  |  |
| Mercury, alkyl compounds (as Hg) |  |  |  | 0.01 |  | 0.03 |  |  | OTO Sk | [e](#_Notes) |
| Mercury, aryl compounds (as Hg) |  |  |  | 0.1 |  |  |  |  | OTO Sk | [e](#_Toc125022441) |
| Mercury, elemental vapour (as Hg) |  | 7439-97-6 | 0.003 | 0.025 |  |  |  |  | OTO Sk | [e](#_Toc125022441) |
| Mercury, inorganic divalent compounds (as Hg) |  |  | 0.003 | 0.025 |  |  |  |  | OTO Sk | [e](#_Toc125022441) |
| Mercury, inorganic monovalent compounds (as Hg) |  |  |  | 0.1 |  |  |  |  | OTO Sk | [e](#_Toc125022441) |
| Mesityl oxide | 4-Methylpent-3-en-2-one; Isobutenyl methyl ketone; Isopropylidene acetone | 141-79-7 | 2 | 8.1 |  |  |  |  |  |  |
| Methacrylic acid |  | 79-41-4 | 20 | 70 |  |  |  |  |  |  |
| Methomyl | Lannate | 16752-77-5 |  | 0.2 |  |  |  |  |  |  |
| Methoxychlor |  | 72-43-5 |  | 10 |  |  |  |  |  |  |
| 1-Methoxy-2-propanol acetate | 2-Propanol, 1-methoxy-, acetate | 108-65-6 | 50 | 274 | 100 | 548 |  |  |  |  |
| 2-Methoxyethanol | Ethylene glycol, monomethyl ether; Methyl cellosolve; Methyl glycol | 109-86-4 | 0.1 | 0.3 |  |  |  |  | Sk |  |
| 2-Methoxyethyl acetate | Ethanol, 2-methoxy-, acetate; Methyl glycol acetate; Methyl cellosolve acetate | 110-49-6 | 0.1 | 0.5 |  |  |  |  | Sk |  |
| (2-Methoxymethylethoxy) propanol | Propanol, 1(or 2)-(2-methoxymethylethoxy)- | 34590-94-8 | 50 | 305 |  |  |  |  | Sk |  |
| 4-Methoxyphenol | Mequinol; Hydroquinone monomethyl ether; p- Hydroxyanisole; p-Methoxyphenol | 150-76-5 |  | 5 |  |  |  |  | DSEN |  |
| Methyl acetate | Acetic acid, methyl ester | 79-20-9 | 200 | 606 | 250 | 757 |  |  |  |  |
| Methyl acetylene | 1-Propyne | 74-99-7 | 1000 | 1640 |  |  |  |  |  |  |
| Methyl acetylene-propadiene mixture | MAPP |  | 1000 | 1640 | 1250 | 2050 |  |  |  |  |
| Methyl acrylate | 2-Propenoic acid, methyl ester | 96-33-3 | 2 | 7 |  |  |  |  | DSEN Sk |  |
| Methyl alcohol | Methanol | 67-56-1 | 100 | 130 |  |  |  |  | Sk | [f](#_Toc125022441) |
| N-Methyl aniline | Benzenamine, N-methyl- | 100-61-8 | 0.5 | 2.2 |  |  |  |  | Sk |  |
| Methyl bromide | Methane, bromo- | 74-83-9 | 1 | 3.89 |  |  |  |  | Sk |  |
| Methyl chloride | Methane, chloro- | 74-87-3 | 20 | 42 | 80 | 167 |  |  | DSEN Sk |  |
| Methyl demeton |  | 8022-00-2 |  | 0.5 |  |  |  |  | Sk |  |
| Methyl ethyl ketone | MEK; 2-Butanone | 78-93-3 | 200 | 590 | 300 | 885 |  |  | Sk | [e](#_Toc125022441) |
| Methyl ethyl ketone peroxide | 2-Butanone, peroxide | 1338-23-4 |  |  |  |  | 0.2 | 1.5 |  |  |
| Methyl formate | Formic acid, methyl ester | 107-31-3 | 50 | 123 | 100 | 245 |  |  | Sk |  |
| Methyl hydrazine |  | 60-34-4 | 0.01 | 0.019 |  |  |  |  | Sk |  |
| Methyl iodide | Methane, iodo- | 74-88-4 | 2 | 12 |  |  |  |  | Sk |  |
| Methyl isoamyl ketone | 2-Hexanone, 5-methyl- | 110-12-3 | 20 | 93 | 40 | 186 |  |  |  |  |
| Methyl isobutyl carbinol | 2-Pentanol, 4-methyl- | 108-11-2 | 25 | 104 | 40 | 167 |  |  |  |  |
| Methyl isobutyl ketone | 2-Pentanone, 4-methyl-; MIBK | 108-10-1 | 20 | 82 | 75 | 307 |  |  |  | [e](#_Toc125022441) |
| Methyl isocyanate | Methane, isocyanato- | 624-83-9 | 0.02 | 0.047 | 0.06 | 0.14 |  |  | DSEN RSEN Sk | [e](#_Toc125022441) |
| Methyl isopropyl ketone | 2-Butanone, 3-methyl- | 563-80-4 | 20 | 70 |  |  |  |  |  |  |
| Methyl mercaptan | Methanethiol | 74-93-1 | 0.5 | 0.98 |  |  |  |  |  |  |
| Methyl methacrylate | 2-Propenoic acid, 2-methyl-, methyl ester | 80-62-6 | 50 | 208 | 100 | 416 |  |  | DSEN |  |
| Methyl n-amyl ketone | 2-Heptanone | 110-43-0 | 50 | 233 |  |  |  |  |  |  |
| Methyl n-butyl ketone | 2-Hexanone | 591-78-6 | 5 | 20 | 10 | 40 |  |  | Sk |  |
| Methyl parathion |  | 298-00-0 |  | 0.02 |  |  |  |  | OTO Sk | [e](#_Toc125022441) |
| Methyl propyl ketone | 2-Pentanone | 107-87-9 |  |  | 150 | 529 |  |  |  |  |
| Methyl silicate | Silicic acid (H4SiO4), tetramethyl ester; Tetramethyl orthosilicate | 681-84-5 | 1 | 6 |  |  |  |  |  |  |
| alpha-Methyl styrene | Benzene, (1-methylethenyl)- | 98-83-9 | 50 | 242 | 100 | 483 |  |  |  |  |
| 1-Methyl-2-pyrrolidone | N-Methyl-2-pyrrolidinone | 872-50-4 | 20 | 80 |  |  |  |  | Sk |  |
| Methylacrylonitrile | 2-Propenenitrile, 2-methyl- | 126-98-7 | 1 | 2.7 |  |  |  |  | DSEN Sk |  |
| 2-Methylbutyl acetate |  | 624-41-9 | 50 | 266 | 100 | 532 |  |  |  |  |
| Methylal | Methane, dimethoxy- | 109-87-5 | 1000 | 3110 |  |  |  |  |  |  |
| Methylamine | Methanamine | 74-89-5 | 10 | 13 |  |  |  |  |  |  |
| Methylcyclohexane | Cyclohexane, methyl- | 108-87-2 | 200 | 810 |  |  |  |  |  |  |
| Methylcyclohexanol |  | 25639-42-3 | 50 | 234 |  |  |  |  |  |  |
| o-Methylcyclohexanone |  | 583-60-8 | 50 | 229 | 75 | 344 |  |  | Sk |  |
| Methylcyclopentadienyl manganese tricarbonyl (as Mn) | Manganese, tricarbonyl[(1,2,3,4,5-.eta.)-1-methyl-2,4-cyclopentadien-1-yl]- | 12108-13-3 |  | 0.2 |  |  |  |  | OTO Sk |  |
| Methylene bis(4-cyclo-hexylisocyanate) | Cyclohexane, 1,1'-methylenebis[4-isocyanato- | 5124-30-1 |  | 0.02 |  | 0.07 |  |  | DSEN RSEN Sk | [e](#_Toc125022441) |
| Methylene chloride | Methane, dichloro-;  Dichloromethane | 75-09-2 | 50 | 174 |  |  |  |  | Sk |  |
| 4,4'-Methylene dianiline | Benzenamine, 4,4'-methylenebis-; DADPM; MDA; DDM | 101-77-9 | 0.1 | 0.81 |  |  |  |  | DSEN Sk |  |
| 5-Methylheptan-3-one | 3-Heptanone, 5-methyl-; Ethyl amyl ketone | 541-85-5 | 10 | 53 | 20 | 107 |  |  |  |  |
| Methyl-tert butyl ether | Propane, 2-methoxy-2-methyl- | 1634-04-4 | 50 | 180 |  |  |  |  |  |  |
| Metribuzin |  | 21087-64-9 |  | 5 |  |  |  |  |  |  |
| Mevinphos |  | 7786-34-7 |  | 0.01 |  |  |  |  | OTO  Sk |  |
| Mica | Mica-group minerals; Dimonite; Micatex | 12001-26-2 |  | 2.5 |  |  |  |  |  |  |
| Mineral spirits (mineral turpentine) |  | 64742-82-1  64742-95-6  64742-48-9 | 50 | 296 | 100 | 593 |  |  | OTO |  |
| Mineral spirits (white spirits) | Stoddard solvent | 8052-41-3 | 50 | 296 | 100 | 593 |  |  | OTO |  |
| Molybdenum, insoluble compounds (as Mo) (inhalable) |  | 7439-98-7 |  | 10 |  |  |  |  |  |  |
| Molybdenum, insoluble compounds (as Mo) (respirable) |  | 7439-98-7 |  | 3 |  |  |  |  |  |  |
| Molybdenum, soluble compounds (as Mo) |  | 7439-98-7 |  | 0.5 |  |  |  |  |  |  |
| Monochloroacetic acid | Acetic acid, chloro- | 79-11-8 | 0.5 | 2 |  |  |  |  | Sk |  |
| Monocrotophos |  | 6923-22-4 |  | 0.05 |  |  |  |  | OTO Sk |  |
| Morpholine |  | 110-91-8 | 20 | 71 |  |  |  |  | Sk |  |
| Naled | Dibrom; Dimethyl-1,2-dibromo-2,2-dichloroethylphosphate | 300-76-5 |  | 0.1 |  |  |  |  | OTO Sk |  |
| Naphthalene |  | 91-20-3 | 10 | 52 |  |  |  |  | Sk | [e](#_Toc125022441) |
| Nickel carbonyl (as Ni) |  | 13463-39-3 |  |  |  |  | 0.05 | 0.12 |  | [e](#_Toc125022441) |
| Nickel, metal and insoluble compounds (as Ni) | Nickel dichloride; Nickel dinitrate; Nickel sulfide roasting (fume and dust); Nickel salt, nitric acid | 7718-54-9 13138-45-9 7440-02-0  14216-75-2 |  | 0.1 |  |  |  |  | DSEN | [e f](#_Toc125022441) |
| Nickel,soluble compounds (as Ni) |  |  |  | 0.1 |  |  |  |  | DSEN RSEN | [e f](#_Toc125022441) |
| Nicotine | Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- | 54-11-5 |  | 0.5 |  |  |  |  | Sk |  |
| Nitrapyrin | 2-Chloro-6-(trichloromethyl) pyridine | 1929-82-4 |  | 10 |  | 20 |  |  | DSEN Sk |  |
| Nitric acid |  | 7697-37-2 | 2 | 5.2 |  |  |  |  |  |  |
| Nitric oxide | Nitrogen oxide (NO) | 10102-43-9 | 2 | 2.5 |  |  |  |  |  |  |
| 5-nitro-o-toluidine (inhalable) |  | 99-55-8 |  | 1 |  |  |  |  |  |  |
| p-Nitroaniline | Benzenamine, 4-nitro- | 100-01-6 |  | 3 |  |  |  |  | Sk |  |
| Nitrobenzene | Nitrobenzol | 98-95-3 | 1 | 5 |  |  |  |  | Sk |  |
| p-Nitrochlorobenzene | Benzene, 1-chloro-4-nitro- | 100-00-5 | 0.1 | 0.64 |  |  |  |  | Sk |  |
| Nitroethane |  | 79-24-3 | 100 | 307 |  |  |  |  |  |  |
| Nitrogen dioxide | Nitrogen oxide (NO2) | 10102-44-0 | 3 | 5.6 | 5 | 9.4 |  |  |  |  |
| Nitrogen trifluoride |  | 7783-54-2 | 10 | 29 |  |  |  |  |  |  |
| Nitroglycerine | 1,2,3-Propanetriol, trinitrate | 55-63-0 | 0.01 | 0.1 | 0.02 | 0.2 |  |  | DSEN Sk |  |
| Nitromethane |  | 75-52-5 | 20 | 50 |  |  |  |  |  |  |
| 1-Nitropropane |  | 108-03-2 | 25 | 91 |  |  |  |  |  |  |
| 2-Nitropropane |  | 79-46-9 | 10 | 36 |  |  |  |  |  |  |
| 3-Nitrotoluene |  | 99-08-1 | 2 | 11 |  |  |  |  | Sk |  |
| 4-Nitrotoluene |  | 99-99-0 | 2 | 11 |  |  |  |  | Sk |  |
| Nitrous oxide | Nitrogen oxide, (N2O) | 10024-97-2 | 50 | 90 |  |  |  |  |  |  |
| Nonane |  | 111-84-2 | 200 | 1050 |  |  |  |  |  |  |
| Octachloronaphthalene |  | 2234-13-1 |  | 0.1 |  | 0.3 |  |  | Sk |  |
| Octane |  | 111-65-9 | 300 | 1400 | 375 | 1750 |  |  |  |  |
| Oil mist, refined mineral | Paraffin oils | 8012-95-1 |  | 5 |  |  |  |  |  |  |
| Osmium tetroxide (as Os) | Osmium oxide (OsO4), (T-4)- | 20816-12-0 | 0.0002 | 0.002 |  |  |  |  |  |  |
| Oxalic acid | Ethanedioic acid | 144-62-7 |  | 1 |  | 2 |  |  |  |  |
| 2,2'-Oxybis[ethanol] | Diethylene glycol | 111-46-6 | 23 | 100 |  |  |  |  |  |  |
| Oxygen difluoride |  | 7783-41-7 |  |  |  |  | 0.05 | 0.11 |  |  |
| Ozone |  | 10028-15-6 |  |  |  |  | 0.1 | 0.2 |  |  |
| Paraffin wax (fume) |  | 8002-74-2 |  | 2 |  |  |  |  |  |  |
| Paraquat (respirable) |  | 4685-14-7 |  | 0.05 |  |  |  |  | OTO Sk |  |
| Parathion |  | 56-38-2 |  | 0.1 |  |  |  |  | OTO Sk | [e](#_Toc125022441) |
| PCBs (42% Chlorine) | Polychlorinated biphenyls | 53469-21-9 |  | 1 |  | 2 |  |  | Sk | [f](#_Toc125022441) |
| PCBs (54% Chlorine) | Chlorobiphenyl | 11097-69-1 |  | 0.5 |  | 1 |  |  | Sk | [f](#_Toc125022441) |
| Pentaborane |  | 19624-22-7 | 0.005 | 0.013 |  |  |  |  |  |  |
| Pentachloronaphthalene |  | 1321-64-8 |  | 0.5 |  |  |  |  | Sk |  |
| Pentachloronitrobenzene | Quintozene (ISO) | 82-68-8 |  | 0.5 |  |  |  |  | DSEN |  |
| Pentachlorophenol |  | 87-86-5 |  | 0.5 |  |  |  |  | Sk | [e](#_Toc125022441) |
| Pentaerythritol | 1,3-Propanediol, 2,2-bis(hydroxymethyl)- | 115-77-5 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Pentane (all isomers) | n-pentane;  neo-pentane;  isopentane | 109-66-0  463-82-1  78-78-4 | 1000 | 3000 |  |  |  |  |  |  |
| 2,3-Pentanedione |  | 600-14-6 | 0.02 | 0.083 |  |  |  |  |  |  |
| 2,4-Pentanedione |  | 123-54-6 | 25 | 102 |  |  |  |  | Sk |  |
| Peracetic acid | Ethaneperoxoic acid | 79-21-0 |  |  |  |  | 0.4 | 1.24 |  |  |
| Perchloroethylene | Ethene, tetrachloro- | 127-18-4 | 20 | 138 | 40 | 275 |  |  | OTO Sk | [e](#_Toc125022441) |
| Perchloromethyl mercaptan |  | 594-42-3 | 0.1 | 0.76 |  |  |  |  |  |  |
| Perchloryl fluoride |  | 7616-94-6 | 3 | 13 |  |  |  |  |  |  |
| Perfluoroisobutylene |  | 382-21-8 |  |  |  |  | 0.01 | 0.082 |  |  |
| Perlite dust | Perlite, volcanic glass | 93763-70-3 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Persulfates, ammonium- and alkali metal salts |  | 7727-54-0 7727-21-1 7775-27-1 |  | 0.1 |  |  |  |  | DSEN RSEN |  |
| Petrol (gasoline) |  |  | 300 | 900 |  |  | 500 | 1480 |  |  |
| Phenol | Carbolic acid | 108-95-2 | 1 | 4 |  |  |  |  | Sk |  |
| Phenothiazine | 10H-Phenothiazine | 92-84-2 |  | 5 |  |  |  |  | Sk |  |
| Phenyl ether (vapour) | Benzene, 1,1'-oxybis- | 101-84-8 | 1 | 7 | 2 | 14 |  |  |  |  |
| Phenyl glycidyl ether | PGE; Oxirane, (phenoxymethyl)- | 122-60-1 | 1 | 6.1 |  |  |  |  | DSEN Sk |  |
| Phenyl isocyanate |  | 103-71-9 | 0.005 | 0.024 |  |  |  |  |  | [e](#_Toc125022441) |
| Phenyl mercaptan | Benzenethiol | 108-98-5 | 0.1 | 0.45 |  |  |  |  | Sk |  |
| m-Phenylenediamine | 1,3-Benzenediamine | 108-45-2 |  | 0.1 |  |  |  |  | DSEN Sk |  |
| o-Phenylenediamine | 1,2-Benzenediamine | 95-54-5 |  | 0.1 |  |  |  |  | DSEN |  |
| p-Phenylenediamine | 1,4-Benzenediamine | 106-50-3 |  | 0.1 |  |  |  |  | DSEN |  |
| Phenylhydrazine |  | 100-63-0 | 0.1 | 0.44 |  |  |  |  | DSEN Sk |  |
| Phenylphosphine |  | 638-21-1 |  |  |  |  | 0.05 | 0.23 |  |  |
| Phorate |  | 298-02-2 |  | 0.05 |  |  |  |  | OTO Sk |  |
| Phosgene | Carbonic dichloride | 75-44-5 | 0.1 | 0.41 | 0.4 | 1.6 |  |  |  |  |
| Phosphine |  | 7803-51-2 | 0.05 | 0.07 |  |  | 0.15 | 0.21 |  |  |
| Phosphoric acid | Orthophosphoric acid | 7664-38-2 |  | 1 |  | 3 |  |  |  |  |
| Phosphorus (yellow) |  | 7723-14-0 |  | 0.01 |  |  |  |  |  |  |
| Phosphorus oxychloride | Phosphoryl chloride | 10025-87-3 | 0.02 | 0.13 |  |  |  |  |  |  |
| Phosphorus pentachloride | Phosphorane, pentachloro- | 10026-13-8 | 0.1 | 0.85 |  |  |  |  |  |  |
| Phosphorus pentasulfide | Phosphorus sulfide (P2S5) | 1314-80-3 |  | 1 |  | 3 |  |  |  |  |
| Phosphorus trichloride |  | 7719-12-2 | 0.2 | 1.1 | 0.5 | 2.8 |  |  |  |  |
| Phthalic anhydride | 1,3-Isobenzofurandione | 85-44-9 | 0.0003 | 0.002 |  |  |  |  | DSEN RSEN Sk |  |
| m-Phthalodinitrile | 1,3-Benzenedicarbonitrile | 626-17-5 |  | 5 |  |  |  |  |  |  |
| Picloram | Tordon | 1918-02-1 |  | 10 |  |  |  |  |  |  |
| Picric acid | Phenol, 2,4,6-trinitro- | 88-89-1 |  | 0.1 |  |  |  |  |  |  |
| Pindone | Pival; 2-Pivalyl-1,3-indandione | 83-26-1 |  | 0.1 |  |  |  |  |  |  |
| Piperazine and salts |  | 110-85-0 142-64-3 | 0.03 | 0.1 | 0.09 | 0.3 |  |  | DSEN RSEN Sk |  |
| Piperidine |  | 110-89-4 | 1 | 3.5 |  |  |  |  | Sk |  |
| Platinum, metal |  | 7440-06-4 |  | 0.1 |  |  |  |  |  |  |
| Platinum, soluble salts (as Pt) |  |  |  | 0.002 |  |  |  |  |  |  |
| Polyvinyl chloride (respirable dust) | Ethene, chloro-, homopolymer | 9002-86-2 |  | 1 |  |  |  |  |  |  |
| Portland cement (respirable dust) | Cement kiln dust; Kiln baghouse dust; Kiln precipitator catch; Portland cement kiln dust; Waste kiln dust | 65997-15-1 |  | 1 |  |  |  |  |  | [a](#_Toc125022441) |
| Potassium hydroxide | Caustic potash | 1310-58-3 |  |  |  |  |  | 2 |  |  |
| Propane-1,2-diol total (vapour and particulates) | 1,2-Propanediol; 1,2-Propylene glycol | 57-55-6 |  | 50 |  |  |  |  |  |  |
| Propargyl alcohol | 2-Propyn-1-ol | 107-19-7 | 1 | 2.3 |  |  |  |  | Sk |  |
| beta-Propiolactone | 2-Oxetanone | 57-57-8 | 0.5 | 1.5 |  |  |  |  | DSEN Sk | [f](#_Toc125022441) |
| Propionic acid | Propanoic acid | 79-09-4 | 10 | 30 |  |  |  |  |  |  |
| Propoxur | PHC; Baygon; Arprocarb | 114-26-1 |  | 0.5 |  |  |  |  | Sk |  |
| Propranolol |  | 525-66-6 | 0.188 | 2 | 0.565 | 6 |  |  |  |  |
| Propyl acetate (all isomers) | Acetic acid, propyl ester | 109-60-4 108-21-4 | 100 | 417 | 150 | 626 |  |  |  |  |
| Propyl alcohol | 1-Propanol | 71-23-8 | 200 | 492 | 250 | 614 |  |  |  |  |
| Propylene dichloride | Propane, 1,2-dichloro- | 78-87-5 | 75 | 347 | 110 | 508 |  |  | Sk |  |
| Propylene glycol dinitrate | 1,2-Propanediol, dinitrate | 6423-43-4 | 0.01 | 0.069 |  |  |  |  | Sk |  |
| Propylene glycol monomethyl ether | 2-Propanol, 1-methoxy- | 107-98-2 | 100 | 369 | 150 | 553 |  |  |  |  |
| Propylene imine | Aziridine, 2-methyl- | 75-55-8 | 0.2 | 0.5 |  |  |  |  | Sk |  |
| Propylene oxide | Oxirane, methyl- 1,2-Epoxypropane | 75-56-9 | 2 | 4.8 |  |  |  |  | Sk |  |
| n-Propyl nitrate |  | 627-13-4 | 25 | 107 |  |  |  |  |  |  |
| Pyrethrum | Pyrethrins and Pyrethroids | 8003-34-7 |  | 1 |  |  |  |  | Sk |  |
| Pyridine |  | 110-86-1 | 1 | 3.1 |  |  |  |  | Sk |  |
| Quinone | 2,5-Cyclohexadiene-1,4-dione | 106-51-4 | 0.1 | 0.44 |  |  |  |  |  |  |
| Resorcinol | 1,3-Benzenediol | 108-46-3 | 10 | 45 |  |  |  |  | DSEN Sk |  |
| Rhodium, insoluble compounds (as Rh) |  |  |  | 1 |  |  |  |  |  |  |
| Rhodium, metal |  | 7440-16-6 |  | 1 |  |  |  |  |  |  |
| Rhodium, soluble compounds (as Rh) |  |  |  | 0.01 |  |  |  |  |  |  |
| Ronnel (inhalable and vapour) | Fenchlorphos | 299-84-3 |  | 5 |  |  |  |  | OTO |  |
| Rosin core solder pyrolysis products (as formaldehyde) |  |  |  | 0.1 |  |  |  |  | DSEN Sk |  |
| Rotenone (commercial) | Derris, commercial | 83-79-4 |  | 5 |  |  |  |  | Sk |  |
| Rouge dust |  |  |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Selenium compounds (as Se) excluding hydrogen selenide |  |  |  | 0.1 |  |  |  |  | Sk |  |
| Selenium hexafluoride (as Se) |  | 7783-79-1 | 0.05 | 0.16 |  |  |  |  |  |  |
| Sesone | 2,4-DES sodium;  Crag Herbicide;  Sodium 2,4-dichloro phenoxyethyl sulfate | 136-78-7 |  | 10 |  |  |  |  |  |  |
| Silica – Amorphous |  |  |  |  |  |  |  |  |  |  |
| ►Diatomaceous earth (uncalcined) | Kieselguhr | 61790-53-2 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| ►Silica Fume (thermally generated) (respirable dust) | Silica; Acticel; Colloidal silica; Colloidal silicon dioxide | 7631-86-9 |  | 2 |  |  |  |  |  | [a](#_Toc125022441) |
| ►Fumed Silica (respirable dust) |  | 7631-86-9 |  | 2 |  |  |  |  |  | [a](#_Toc125022441) |
| ►Precipitated silica | Silica gel, precipitated, crystalline free | 112926-00-8 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| ►Silica gel |  | 112926-00-8 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Silica - crystalline |  |  |  |  |  |  |  |  |  |  |
| ►Cristobalite (respirable dust) | Silicon dioxide | 14464-46-1 |  | 0.05 |  |  |  |  |  | [e f](#_Toc125022441) |
| ►Quartz (respirable dust) | Quartz (SiO2) | 14808-60-7 |  | 0.05 |  |  |  |  |  | [e f](#_Toc125022441) |
| ►Tridymite (respirable dust) |  | 15468-32-3 |  | 0.05 |  |  |  |  |  | [e f](#_Toc125022441) |
| ►Tripoli (respirable dust) |  | 1317-95-9 |  | 0.05 |  |  |  |  |  | [e](#_Toc125022441)  [f](#_Toc125022441) |
| Silica, fused |  | 60676-86-0 | See Silica – crystalline | | | | | | | |
| Silicon |  | 7440-21-3 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Silicon carbide (non-fibrous dust) (inhalable) |  | 409-21-2 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Silicon carbide (non-fibrous dust) (respirable) |  | 409-21-2 |  | 3 |  |  |  |  |  | [a](#_Toc125022441) |
| Silicon tetrahydride | Silane | 7803-62-5 | 5 | 6.6 |  |  |  |  |  |  |
| Silver, metal |  | 7440-22-4 |  | 0.1 |  |  |  |  |  |  |
| Silver, soluble compounds (as Ag) |  |  |  | 0.01 |  |  |  |  |  |  |
| Soapstone |  |  |  | 6 |  |  |  |  |  | [a](#_Toc125022441) |
| Soapstone (respirable dust) |  |  |  | 3 |  |  |  |  |  | [a](#_Toc125022441) |
| Sodium azide |  | 26628-22-8 |  |  |  |  | 0.11 | 0.3 |  | [d](#_Toc125022441) |
| Sodium bisulphite | Sulfurous acid, monosodium salt | 7631-90-5 |  | 5 |  |  |  |  |  |  |
| Sodium fluoroacetate |  | 62-74-8 |  | 0.05 |  |  |  |  | Sk |  |
| Sodium hydroxide | Caustic soda | 1310-73-2 |  |  |  |  |  | 2 |  |  |
| Sodium metabisulphite | Disulfurous acid, sodium salt (1:2) | 7681-57-4 |  | 5 |  |  |  |  |  |  |
| Starch |  | 9005-25-8 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Stearates (inhalable) |  |  |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Stearates (respirable) |  |  |  | 3 |  |  |  |  |  | [a](#_Toc125022441) |
| Stibine |  | 7803-52-3 | 0.1 | 0.51 |  |  |  |  |  |  |
| Strychnine |  | 57-24-9 |  | 0.15 |  |  |  |  |  |  |
| Styrene, monomer | Benzene, ethenyl- Vinylbenzene | 100-42-5 | 20 | 85 | 40 | 170 |  |  | OTO | [e](#_Toc125022441) |
| Subtilisins (Proteolytic enzymes as 100% pure crystalline enzyme) |  | 1395-21-7 |  |  |  |  |  | 0.00006 | RSEN |  |
| Sucrose | .alpha.-D-Glucopyranoside, .beta.-D-fructofuranosyl | 57-50-1 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Sulfotep | TEDP; O,O,O,O-Tetraethyl dithiopyrophosphate | 3689-24-5 | 0.007 | 0.1 |  |  |  |  | Sk |  |
| Sulfur dioxide |  | 7446-09-5 |  |  | 0.25 | 0.65 |  |  |  |  |
| Sulfur hexafluoride | Sulfur fluoride (SF6) | 2551-62-4 | 1000 | 5970 |  |  |  |  |  |  |
| Sulfur monochloride | Sulfur chloride (S2Cl2) | 10025-67-9 |  |  |  |  | 1 | 5.5 |  |  |
| Sulfhur pentafluoride | Disulfhur decafluoride | 5714-22-7 |  |  |  |  | 0.01 | 0.1 |  |  |
| Sulfur tetrafluoride | Sulfur fluoride (SF4), (T-4)- | 7783-60-0 |  |  |  |  | 0.1 | 0.44 |  |  |
| Sulfuric acid |  | 7664-93-9 |  | 0.1 |  |  |  |  |  |  |
| Sulfuryl fluoride |  | 2699-79-8 | 5 | 21 | 10 | 42 |  |  |  |  |
| Sulprofos | Bolstar | 35400-43-2 | 0.008 | 0.1 |  |  |  |  | OTO Sk |  |
| Synthetic mineral fibres (SMF) | Man-Made Vitreous (Silicate) Fibres (MMVF) |  |  |  |  |  |  |  |  |  |
| ►Refractory Ceramic Fibres (RCF)(g), Special Purpose Glass Fibres(h) and other SMF not otherwise listed or that fail to meet the definition of low Biopersistence SMF(j) |  |  | 0.5 f/mL (respirable dust) and 2 mg/m3 (inhalable dust) | |  |  |  |  |  | [g](#_Toc125022441)  [h](#_Toc125022441)  [j](#_Toc125022441) |
| ►[Glass wool, rock (stone) wool, slag wool and continuous glass filament](h)(i) and Low Biopersistence SMF(j) |  |  | 2 mg/m3 (inhalable dust) | |  |  |  |  |  | [h i j](#_Toc125022441) |
| Talc (respirable) (containing no asbestos fibres) | Magnesium silicate talc | 14807-96-6 |  | 2 |  |  |  |  |  |  |
| Tantalum, metal and oxide dusts |  | 7440-25-7 |  | 5 |  |  |  |  |  |  |
| Tellurium and compounds (as Te) |  |  |  | 0.1 |  |  |  |  |  |  |
| Tellurium hexafluoride (as Te) |  | 7783-80-4 | 0.02 | 0.1 |  |  |  |  |  |  |
| Temephos | Abate | 3383-96-8 | 0.1 | 2 |  |  |  |  | OTO Sk |  |
| Terephthalic acid |  | 100-21-0 |  | 5 |  |  |  |  |  |  |
| Tetraethyl pyrophosphate | TEPP | 107-49-3 | 0.004 | 0.047 |  |  |  |  | Sk |  |
| Terphenyls |  | 26140-60-3 |  |  |  |  | 0.5 | 4.7 |  |  |
| 1,1,2,2-Tetrabromoethane | Ethane, 1,1,2,2-tetrabromo- | 79-27-6 | 1 | 14 |  |  |  |  |  |  |
| 1,1,2,2-Tetrachloro-1,2-difluoroethane | Ethane, 1,1,2,2-tetrachloro-1,2-difluoro- | 76-12-0 | 500 | 4170 |  |  |  |  |  |  |
| 1,1,1,2-Tetrachloro-2,2-difluoroethane | Ethane, 1,1,1,2-tetrachloro-2,2-difluoro- | 76-11-9 | 500 | 4170 |  |  |  |  |  |  |
| 1,1,2,2-Tetrachloroethane | Ethane, 1,1,2,2-tetrachloro- | 79-34-5 | 1 | 7 |  |  |  |  | Sk |  |
| Tetrachloronaphthalene |  | 1335-88-2 |  | 2 |  |  |  |  | Sk |  |
| Tetraethyl lead (as Pb) | Plumbane, tetraethyl- | 78-00-2 |  | 0.1 |  |  |  |  | OTO Sk | [e f](#_Toc125022441) |
| 1,1,1,2-Tetrafluoroethane | Ethane, 1,1,1,2-tetrafluoro-; HFC 134a | 811-97-2 | 1000 | 4240 |  |  |  |  |  |  |
| Tetrafluoroethylene |  | 116-14-3 | 2 | 8.2 |  |  |  |  |  |  |
| Tetrahydrofuran |  | 109-99-9 | 50 | 147 |  |  |  |  | Sk |  |
| Tetramethyl lead (as Pb) | Plumbane, tetramethyl- | 75-74-1 |  | 0.15 |  |  |  |  | OTO Sk | [e f](#_Toc125022441) |
| Tetramethyl succinonitrile |  | 3333-52-6 | 0.5 | 2.8 |  |  |  |  | Sk |  |
| Tetrasodium pyrophosphate | Diphosphoric acid, tetrasodium salt | 7722-88-5 |  | 5 |  |  |  |  |  |  |
| Tetryl | Benzenamine, N-methyl-N,2,4,6-tetranitro- | 479-45-8 |  | 1.5 |  |  |  |  |  |  |
| Thallium, soluble compounds (as Tl) |  |  |  | 0.02 |  |  |  |  | Sk | [e](#_Toc125022441) |
| 4,4'-Thiobis (6-tert-butyl-m-cresol) | Phenol, 4,4'-thiobis[2-(1,1-dimethylethyl)-5-methyl- | 96-69-5 |  | 10 |  |  |  |  |  |  |
| Thioglycolic acid | Acetic acid, mercapto- | 68-11-1 | 1 | 3.8 |  |  |  |  | DSEN Sk |  |
| Thionyl chloride |  | 7719-09-7 |  |  |  |  | 0.2 | 1 |  |  |
| Thiram | Thioperoxydicarbonic diamide ([(H2N)C(S)]2S2), tetramethyl- | 137-26-8 |  | 1 |  |  |  |  | DSEN RSEN Sk |  |
| Tin, metal and inorganic compounds |  |  |  | 2 |  |  |  |  |  | [f](#_Toc125022441) |
| Tin, organic compounds (as Sn) |  |  |  | 0.1 |  |  |  |  | OTO Sk |  |
| Titanium dioxide |  | 13463-67-7 |  | 10 |  |  |  |  |  | [a](#_Toc125022441) |
| Toluene | Benzene, methyl-; Toluol | 108-88-3 | 20 | 75 |  |  |  |  | OTO | [e](#_Toc125022441) |
| m-Toluidine | Benzenamine, 3-methyl- | 108-44-1 | 2 | 8.8 |  |  |  |  | Sk |  |
| o-Toluidine | Benzenamine, 2-methyl- | 95-53-4 | 2 | 8.8 |  |  |  |  | Sk | [f](#_Toc125022441) |
| p-Toluidine | Benzenamine, 4-methyl- | 106-49-0 | 2 | 8.8 |  |  |  |  | DSEN Sk |  |
| Tributyl phosphate | Phosphoric acid, tributyl ester | 126-73-8 | 0.2 | 2.2 |  |  |  |  | OTO |  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Fluorocarbon 113; Freon 113 | 76-13-1 | 1000 | 7670 | 1250 | 9590 |  |  |  |  |
| Trichloroacetic acid |  | 76-03-9 | 1 | 6.7 |  |  |  |  |  |  |
| 1,2,4-Trichlorobenzene |  | 120-82-1 |  |  |  |  | 5 | 37 |  |  |
| 1,1,1-Trichloroethane |  | 71-55-6 | 100 | 555 | 200 | 1110 |  |  |  |  |
| 1,1,2-Trichloroethane |  | 79-00-5 | 10 | 55 |  |  |  |  | Sk |  |
| Trichloroethylene |  | 79-01-6 | 10 | 54 | 40 | 216 |  |  | OTO | [e](#_Toc125022441) |
| Trichlorofluoromethane | Fluorocarbon 11; Freon 11 | 75-69-4 |  |  |  |  | 1000 | 5620 |  |  |
| Trichloronaphthalene |  | 1321-65-9 |  | 5 |  |  |  |  | Sk |  |
| 1,2,3-Trichloropropane |  | 96-18-4 | 10 | 60 |  |  |  |  | Sk |  |
| Triethanolamine | Ethanol, 2,2',2''-nitrilotris- | 102-71-6 |  | 5 |  |  |  |  | Sk |  |
| Triethylamine | Ethanamine, N,N-diethyl- | 121-44-8 | 1 | 4.2 | 2 | 8.4 |  |  | Sk |  |
| Trifluorobromomethane |  | 75-63-8 | 1000 | 6090 |  |  |  |  |  |  |
| Triglycidylisocyanurate | TGIC; Araldite PT 810 | 2451-62-9 |  | 0.08 |  |  |  |  | DSEN Sk |  |
| Trimellitic anhydride | 5-Isobenzofurancarbo xylic acid, 1,3-dihydro-1,3-dioxo- | 552-30-7 | 0.00006 | 0.0005 |  |  | 0.00002 | 0.002 | DSEN RSEN Sk |  |
| Trimethyl benzene (all isomers) |  | 25551-13-7 | 20 | 100 |  |  |  |  |  |  |
| Trimethyl phosphite | Phosphorous acid, trimethyl ester | 121-45-9 | 2 | 10 |  |  |  |  | OTO |  |
| Trimethylamine | Methanamine, N,N-dimethyl- | 75-50-3 | 10 | 24 | 15 | 36 |  |  |  |  |
| 2,4,5-T | 2,4,5-Trichlorophenox yacetic acid | 93-76-5 |  | 10 |  |  |  |  | Sk |  |
| 2,4,6-Trinitrotoluene | TNT; Benzene, 2-methyl-1,3,5-trinitro- | 118-96-7 |  | 0.1 |  |  |  |  | Sk |  |
| Triorthocresyl phosphate | Phosphoric acid, tris(2-methylphenyl) ester | 78-30-8 |  | 0.1 |  |  |  |  | OTO Sk |  |
| Triphenyl amine | Benzenamine, N,N-diphenyl- | 603-34-9 |  | 5 |  |  |  |  |  |  |
| Triphenyl phosphate | Phosphoric acid, triphenyl ester | 115-86-6 |  | 3 |  |  |  |  | OTO |  |
| Tungsten, insoluble compounds (as W) |  | 7440-33-7 |  | 3 |  |  |  |  |  |  |
| Tungsten, metal and compounds (as W) |  | 7440-33-7 |  | 3 |  |  |  |  |  |  |
| Tungsten, soluble compounds (as W) |  | 7440-33-7 |  | 3 |  |  |  |  |  |  |
| Turpentine (wood) | Turpentine oil; Sulfate turpentine | 8006-64-2 | 100 | 557 |  |  |  |  | DSEN Sk |  |
| Uranium (natural), soluble and insoluble compounds (as U) |  |  |  | 0.2 |  |  |  |  |  | [e](#_Toc125022441) |
| n-Valeraldehyde | Pentanal | 110-62-3 | 50 | 176 |  |  |  |  |  |  |
| Vanadium (as V2O5), (respirable dust and fume) | Vanadium pentoxide | 1314-62-1 |  | 0.05 |  |  |  |  |  |  |
| Vegetable oil mists (except castor oil, cashew nut or similar irritant oils) |  |  |  | 10 |  |  |  |  |  |  |
| Vinyl acetate | Acetic acid, ethenyl ester | 108-05-4 | 10 | 35 | 15 | 53 |  |  |  |  |
| Vinyl cyclohexene dioxide | 7-Oxabicyclo[4.1.0] heptane, 3-oxiranyl- | 106-87-6 | 10 | 57 |  |  |  |  | Sk |  |
| Vinyl toluene | Benzene, ethenylmethyl- | 25013-15-4 | 20 | 97 | 40 | 193 |  |  | OTO |  |
| Vinylidene chloride | Ethene, 1,1-dichloro- | 75-35-4 | 5 | 20 | 20 | 79 |  |  |  |  |
| N-vinyl-2-pyrrolidone |  | 88-12-0 | 0.01 | 0.046 |  |  |  |  | Sk |  |
| Warfarin |  | 81-81-2 |  | 0.01 |  |  |  |  | Sk |  |
| Welding fumes (not otherwise classified) |  |  |  | 1 |  |  |  |  |  |  |
| Wood dust (certain hardwood such as beech) |  |  |  | 1 |  |  |  |  | DSEN RSEN Sk |  |
| Wood dust (softwood) |  |  |  | 2 |  |  |  |  | DSEN RSEN Sk |  |
| Xylene (o-, m-, p- isomers) |  | 1330-20-7  95-47-6  108-38-3  106-42-3 | 80 | 350 | 150 | 655 |  |  | OTO | [e](#_Toc125022441) |
| m-Xylene-alpha,alpha'-diamine |  | 1477-55-0 |  |  |  |  |  | 0.1 | Sk |  |
| Xylidine (all isomers) | Xylidine – isomer mix;  2,6-dimethylaniline;  2,3-dimethylaniline;  3,4-dimethylaniline;  2,4-dimethylaniline;  2,5-dimethylaniline;  3,5-dimethylaniline | 1300-73-8  87-62-7  87-59-2  95-64-7  95-68-1  95-78-3  108-69-0 | 0.5 | 2.5 |  |  |  |  | Sk |  |
| Yttrium, metal and compounds (as Y) |  | 7440‐65‐5 |  | 1 |  |  |  |  |  |  |
| Zinc chloride (fume) |  | 7646-85-7 |  |  |  | 2 |  |  |  |  |
| Zinc oxide (dust and fume) |  | 1314-13-2 |  | 2 |  | 10 |  |  |  | [a](#_Toc125022441) |
| Zirconium compounds (as Zr) |  |  |  | 5 |  | 10 |  |  |  |  |

# Appendix B – Non-threshold genotoxic carcinogens

Non-threshold genotoxic carcinogens (NTGCs) can cause genetic damage and may lead to cancer. Unlike other airborne contaminants, a practical, protective exposure level cannot be assigned for NTGCs due to limited data and the nature of their effects. Consequently, no WEL have been specified for the NTGCs listed in the table below.

These chemicals pose a significant risk to workers and PCBUs have a duty to eliminate risks from NTGCs so far as is reasonably practicable. If elimination is not reasonably practicable, the risk of exposure must be minimised as far as reasonably practicable. The health and safety risk these chemicals pose is substantial; you are encouraged to seek advice from a suitably qualified professional such as an occupational hygienist if you work with these chemicals.

Some of the NTGCs in the table below are also subject to specific requirements under the model WHS Regulations as they:

* are prohibited carcinogens, restricted carcinogens or restricted hazardous chemicals(see model WHS regulations 340 and 380–384 and Schedule 10), or
* meet the requirements for health monitoring(model WHS regulations 368, 370 and Schedule 14).

These controls have been specified in the table below for the relevant NTGCs.

If you are uncertain whether chemicals used or generated in your workplace are captured by the NTGC listings, you should seek advice from your [WHS regulator](https://www.safeworkaustralia.gov.au/law-and-regulation/whs-regulators-and-workers-compensation-authorities-contact-information) or a qualified professional, such as an occupational hygienist.

|  | **NTGC** | **CAS number** | **Advisory notations  (section 3.3)** | **Specific requirement(s) in the model WHS Regulations** |
| --- | --- | --- | --- | --- |
| **1** | Acrylamide | 79-06-1 | DSEN Sk |  |
| **2** | Acrylonitrile  (Vinyl cyanide) | 107-13-1 | DSEN Sk | Restricted carcinogen (Schedule 10, Table 10.2\*) – WHS regulator authorisation required  Health monitoring prescribed under Schedule 14 |
| **3** | Allyl chloride  (3-Chloro-1-propene) | 107-05-1 | Sk |  |
| **4** | Allyl glycidyl ether  (AGE, Allyl 2,3-epoxypropyl ether) | 106-92-3 | DSEN Sk |  |
| **5** | Anisidine (o, p- isomers)  (Methoxyaniline) | 29191-52-4 | Sk |  |
| **6** | o-Anisidine | 90-04-0 | Sk |  |
| **7** | p-Anisidine | 104-94-9 | Sk |  |
| **8** | Benzidine | 92-87-5 |  | Prohibited carcinogen (Schedule 10, Table 10.1\*) – WHS regulator authorisation required for genuine research and analysis. No other uses permitted. |
| **9** | (bis)chloromethyl ether | 542-88-1 |  | Prohibited carcinogen (Schedule 10, Table 10.1\*) – WHS regulator authorisation required for genuine research and analysis. No other uses permitted. |
| **10** | 1,3-Butadiene | 106-99-0 |  |  |
| **11** | Catechol  (Pyrocatechol, o-Dihydroxybenzene) | 120-80-9 | DSEN Sk |  |
| **12** | beta-Chloroprene  (2-Chloro-1,3-butadiene) | 126-99-8 | Sk |  |
| **13** | Chromium VI compounds (including zinc chromates) | Various, includes  7440-47-3  (Cr metal), 18540-29-9  (Cr (VI)) and others (>30) | DSEN Sk | Abrasive blasting at a concentration more than 0.5% chromium not permitted unless WHS regulator has issued an exemption (Schedule 10, Table 10.3) Health monitoring prescribed for inorganic chromium under Schedule 14 |
| **14** | Coal tar pitch volatiles (as benzene solubles) | 65996-93-2 | DSEN |  |
| **15** | 1,2-Dibromo ethane  (ethylene dibromide) | 106-93-4 | Sk | Restricted carcinogen (Schedule 10, Table 10.2\*) – WHS regulator authorisation required. Authorisation can only be given for use as a fumigant or for genuine research or analysis |
| **16** | 3,3'-Dichlorobenzidine | 91-94-1 | Sk | Restricted carcinogen (Schedule 10, Table 10.2\*) – WHS regulator authorisation required |
| **17** | Diethyl sulfate | 64-67-5 |  | Restricted carcinogen (Schedule 10, Table 10.2\*) – WHS regulator authorisation required |
| **18** | Dimethylcarbamoyl chloride | 79-44-7 | Sk |  |
| **19** | Dimethyl sulfate | 77-78-1 | DSEN Sk | Restricted carcinogen (Schedule 10, Table 10.2\*) – WHS regulator authorisation required |
| **20** | Dinitrotoluene | 25321-14-6 | Sk |  |
| **21** | Ethylene dichloride  (1,2-Dichloroethane) | 107-06-2 | Sk |  |
| **22** | Ethylene oxide  (Oxirane) | 75-21-8 | DSEN Sk |  |
| **23** | Ethylenimine  (Aziridine) | 151-56-4 | Sk |  |
| **24** | Hydrazine  (Diamine) | 302-01-2 | DSEN Sk |  |
| **25** | Lead chromate (as Cr) | 7758-97-6 | DSEN | Abrasive blasting at a concentration of more than 0.1% as lead, or which would expose the operator to levels in excess of those set in the regulations covering lead, is not permitted unless WHS regulator has issued an exemption (Schedule 10, Table 10.3)  Health monitoring prescribed for inorganic lead under Schedule 14 |
| **26** | 4,4’-Methylene bis(2-chloroaniline)  (MOCA, MBOCA, 2,2'-Dichloro-4,4'-methylenedianiline) | 101-14-4 | Sk | Restricted carcinogen (Schedule 10, Table 10.2\*) – WHS regulator authorisation required  Health monitoring prescribed under Schedule 14 |
| **27** | 2-Nitrotoluene | 88-72-2 |  |  |
| **28** | Propane sultone | 1120-71-4 | Sk |  |
| **29** | Polycyclic aromatic hydrocarbon (PAH) mixture when containing benzo[a]pyrene | 50-32-8 (benzo[a] pyrene) | DSEN Sk | Health monitoring prescribed under Schedule 14 |
| **30** | Tetranitromethane  (TNM) | 509-14-8 |  |  |
| **31** | Urethane | 51-79-6 | Sk |  |
| **32** | Vinyl bromide  (Bromoethylene) | 593-60-2 |  |  |
| **33** | Vinyl chloride, monomer  (Chloroethylene) | 75-01-4 |  | Restricted carcinogen (Schedule 10, Table 10.2\*) – WHS regulator authorisation required  Health monitoring prescribed under Schedule 14 |

*\* Note: The prohibition of the use of carcinogens listed in table 10.1 and the restriction of the use of carcinogens listed in table 10.2 apply to the pure substance and where the substance is present in a mixture at a concentration greater than 0.1%, unless otherwise specified in the relevant table.*

1. Limited, controlled excursions above the WEL may be permitted, provided they meet the requirements specified in section 3.1 below. [↑](#footnote-ref-1)
2. Most airborne contaminants on the WEL are hazardous chemicals. [↑](#footnote-ref-2)
3. Regulation 351 requires the PCBU to take particular matters into account in managing the risks of hazardous chemicals and regulation 352 sets out additional situations in which the PCBU must review its control measures for managing the risks of hazardous chemicals in the workplace. [↑](#footnote-ref-3)