

List of undesirable substances 2000

An advisory list of chemicals, the use of which should be reduced or stopped in the long term

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1 Preface

The Danish EPA's discussion paper

The Danish EPA sent out its discussion paper, *Status og perspektiver for kemikalieområdet. Et debatoplæg* (an English-language summary entitled "Chemicals - Status and Perspectives" is available) in December 1996, to provide a review of the status of actions in the field of chemicals and, in extension thereof, to prepare the way for a debate on forthcoming actions.

The overall goal of actions in the field of chemicals was, and four years later still is, to reduce the impact of substances which load the environment, so that the quality of the environment is not diminished for mankind or nature in general.

An annexe to the 1996 discussion paper contained a proposed list of substances with undesirable effects. The Danish EPA selected these substances because of their effects on health and the environment, and because of the quantities in which they are used. The LOUS was also supplemented by substances that the Danish EPA considers problematical for other reasons.

The Minister's review

After a hearing on the discussion paper and questioning in the Folketing (Danish Parliament) in January 1997, the Minister of Environment and Energy sent to the Folketing in May 1997 a review of the initiatives which the Minister is contemplating in the field of chemicals.

Official list

As one of many initiatives, the review mentioned that the "List of Undesirable Substances" (LOUS) was later to be published as an official list.

For the foregoing reason, the first LOUS was published in 1998. It was also decided at that time that the task of monitoring and providing information on the most problematical substances be carried out continuously.

In the autumn of 1999, work was started on revising the "List of Undesirable Substances" according to the same methods and principles as were applied in 1996.

The 2000 edition of the new, revised, LOUS is now available. As compared to its predecessors, a number of substances or substance groups are no longer on the LOUS. The relevant substances/substance groups are discussed in greater detail in the Section entitled "Changes," together with the reasons for their removal.

Apart from the removal of certain substances/substance groups from the LOUS, new substances have been added. The names of the new substances are briefly listed in the Section entitled "Changes". A more detailed description of all substances on the LOUS can be found in the data sheets of Section 5.

It must be emphasised that the LOUS is not exhaustive, as new knowledge, changed patterns of consumption and new international initiatives are constantly emerging. This means that the LOUS must also be periodically updated in the future.

Selection of substances

The basis for selection of the substances is described in the reports "Criteria for selection of undesirable substances" (Working Report No. 71, December 1996) and "List of Effects 2000" (Environmental Review No. 6, 2000).

One important selection criterion has been the distribution/consumption pattern of a given substance in Denmark. As the point of departure, the most problematical substances in Denmark are listed on the List of Effects 2000. These substances have been systematically selected based either on their classification in the EU or on computerised assessment of their ecotoxicological properties. This list contains a total of 1404 substances. The List of Effects 2000 includes substances classified according to such effects as:

- high acute and/or chronic toxicity
- carcinogenicity
- ability to cause heritable genetic damage
- ability to impair fertility
- ability to induce allergy
- environmental impact.

It is possible to limit the number of substances by assigning them priority according to their consumption on the Danish market. The Danish EPA has elected to apply a limit of 100 tonnes. Note that this does not mean that smaller quantities present no difficulties. The specific use of a substance can constitute a considerable risk, even though the total quantity consumed in Denmark is limited.

If they are used industrially, dangerous chemical substances must be reported to the National Working Environment Authority. Manufacturers and importers are obliged to update this information when changes occur. Earlier studies, e.g., in connection with mass stream analyses, have shown, however, that some parties forget to update information on quantity and forget to report discontinued products for which reason, spot

checks on the quantity information have been necessary when selecting the substances.

The systematic selection applied in the case of the List of Effects 2000 has certain limitations. For this reason, supplementary selection has been applied, based on the present body of knowledge of the substances' effects and dissemination in the environment. The List of Undesirable Substances is partly based on substances taken from the List of Effects 2000, which are used in quantities exceeding 100 tonnes in products and, partly, on the supplementary selection of chemicals, which also includes problematical substances that are used in goods or materials (e.g., phthalates in soft PVC). The list therefore consists of substances classified in the EU and substances that have not yet been classified.

Supplementary selection

Supplementary selection covers, e.g., substances that present problems in the marine environment, waste disposal and ground water.

In brief, the supplementary substances have been selected on the basis of one or more of the seven criteria listed below. Selection criterion No. 7 (substances considered problematical with respect to ground water) is new, as compared to the earlier list.

1. Substances being phased out due to their environment- or health-related properties, but for which no time limits have been set in certain areas of application, as no technically and economically feasible alternatives have yet been found for these areas.
2. Substances that are only subject to partial restrictions on use, although other uses are also considered to arouse concern for the health or environment.
3. Substances, the use in Denmark of which is considered give cause for concern, and substances which are already regulated or for which regulation is being considered.
4. Substances that make problematical the use of the residual products of waste streams (flue-gas cleaning products, slag, sludge and compost).
5. Substances included on the phase-out lists of marine conferences, where there is a desire to phase out the use in products of those substances.
6. Substances covered by political phase-out goals.
7. Substances considered problematical with respect to ground water.

Reduced application

The fact that a substance is included on the LOUS does not signify that the Danish EPA has decided to recommend prohibition of that substance. Regulations on total or partial prohibition are considered to be just one of many means of reducing the environmental loading caused by substances that have undesirable effects. Other means of restricting use include, e.g., classification and labelling, duties on particularly problematical chemicals, stricter standards, voluntary agreements on phase-out, environmental labels, green guidelines for purchasing, positive/negative lists for selected areas, subsidies for substitution initiatives, emission control and information campaigns.

Thus, the LOUS should be considered as a signal to, and a guideline for, the manufacturers, product developers, purchasers and other players concerned with chemicals, the use of which should either be restricted or stopped in the long term. This could be achieved by the companies involved which, based on the information of the LOUS, take the initiative to substitute the problematical substances themselves.

When substituting one substance for another, it is always vital to ensure that, apart from determining whether the alternative is actually usable from the technical standpoint, the substitute is less hazardous to the environment and health than the substance it replaces. Every effort should therefore be made to use alternatives, the effects of which have been studied and documented. It is also important to be aware of whether or not the environmental and health effects of the substitute will be of any significance to the product in which it will be used.

Who can use the LOUS?

Under the right conditions the LOUS can be used by corporate product developers, by professional purchasers when making environmentally-aware purchases and by others who are interested in how chemical substances are used in products.

The use of the LOUS does, however, presume a certain level of professional expertise in environmental matters, before the user is able to assess the usability of the substances in products, the properties of any alternatives and their suitability, etc.

2 Reader's guide

Subdivision of the LOUS In the LOUS, each substance/group of substances is shown on a data sheet which contains various information fields. The content of these fields is explained below.

CAS No. A unique number assigned to a chemical substance by the Chemical Abstract Service. Apart from the fact that these numbers are unique to each individual compound, they have no other significance.

EINECS No. The substance's EU number. The EINECS numbers of the dangerous substances included on the European Inventory of Existing Commercial Chemical Substances (Einecs, OJ No. C 146A, 15. 6. 1990) are given in this field.

Synonym The trivial or popular names of certain substances are shown.

Product groups These fields state selected product groups in which the relevant substances, the use of which can constitute a special problem, are included. It is important here to note that the information to which the Danish EPA is referring has been taken from Department of Data on Chemical Products, National Working Environment Authority (formerly the Product Register Department (National Institute of Occupational Health, Denmark)) which, in turn, receives its information from manufacturers and importers. The importers and manufacturers of dangerous chemicals are obliged to report the quantities and functions of the chemicals they use or in which they trade.

It is also important to note that the LOUS's information on the fields of application of the individual chemicals is not exhaustive. It can very well be the case that a given substance is used in product groups other than those mentioned. Further, it is important to be aware that a listed substance is not necessarily problematical in all of the applications in which it is used. If a substance is primarily used in a closed system from which it cannot escape, it is often less problematical than if it comes into direct contact with humans or if there is a risk of it being released into the environment.

Chemical substances that are only used as pesticides have not been included as they are within the scope of an approval scheme. Certain biocidal products are listed, which either are or will be embraced by an approval scheme, but which also have other applications.

Reason for selection Chemical substances and products can be hazardous to human beings and the environment throughout their entire life cycle, i.e. from the time of manufacture to their use and disposal. A substance could, thus, have been selected because it has undesirable properties in general and/or because it is considered to be a problematical in specific contexts, such as in the waste cycle or in the marine environment. Moreover, a substance can be selected, for instance, on the basis of a Danish political decision on phase-out.

If a substance has been selected *on the basis of its classification*, this means that it is classified on the List of dangerous substances because of its particularly serious effects on the health and environment.

Such effects include:

- high acute or chronic toxicity
- carcinogenicity
- ability to cause heritable genetic damage
- ability to impair fertility
- ability to induce allergy
- environmental impact.

If a substance has been selected *on the basis of computerised assessment*, this indicates that its effects are considered to be especially serious from the ecotoxicological standpoint. These substances have been identified with the aid of computerised assessment techniques (QSAR). Such substances are designated on the LOUS as being hazardous to the aquatic environment.

Finally, certain substances have been selected for supplementary reasons, because they are problematical in the marine environment, in waste disposal, for the climate or for ground water.

Goals These fields state the Danish EPA's specific goals and activities for restricting the use of the substances that have been given special priority.

Classification These fields state the danger categories and risk phrases assigned to substances on the List of Undesirable Substances /1/.

Present regulation These fields indicate whether or not a substance is covered by regulations on restricted application or other restriction initiatives, such as voluntary phase-out agreements with the industry. Furthermore, they indicate whether or not quality criteria or limit values have been defined for soil, air or watercourses, lakes and the sea. These fields also include references to any special working-environment regulations for working with a

substance. All substances are, moreover, subject to a number of general working-environment regulations (see "References" at the end of this report). Finally, there can be references to some other form of regulation, for instance, a surcharge on a substance.

The specific regulations are shown in "References".

Activities

For each listed substance, the activities which have already been implemented or started, or which are being contemplated within the foreseeable future, are also shown.

3 Types of activity

Substances with special priorities

The "Goals and Activities" fields of 26 of the data sheets indicate that the substances concerned are the subject of high-priority activities. The particular activities associated with these high-priority substances/groups of substances refer to the first three of the activities listed below - they are shown in the "Activities" fields on the data sheets.

Initiatives for prohibition or restriction

In the case of listed substances for which the body of knowledge is already sufficient to justify initiatives for prohibition or restriction, a description is given of the specific initiative being contemplated for implementation. The same applies to substances for which an action plan has already been drafted or is in the process of being drafted.

The especially high-priority substances targeted by these initiatives are:

- *alkylphenol and alkylphenol ethoxylates*
- *azo dyes*
- *lead and lead compounds*
- *brominated flame retarders*
- *creosote compounds*
- *hydrogenated fluorocarbons (HFCs)*
- *short-chained chlorinated paraffins*
- *methyl tertiary butyl ether (MTBE)*
- *organotin compounds*
- *perfluorinated hydrocarbons*
- *phthalates*
- *sulphur hexafluoride.*

Acquisition of knowledge for phase-out initiatives

In the case of listed substances, the goal for which is restriction, there is a need to acquire additional scientific knowledge to facilitate the implementation of prohibitions or restrictions. This could be a matter of knowledge pertaining to the specific use of the substances in all types of product, possible substitutes, as well as an assessment of the socio-economic consequences of such regulation, before deciding how the restriction of substance use can be implemented.

The especially high-priority substances for which this activity is planned are:

- *chromium compounds*
- *dichloromethane*
- *formaldehyde*
- *copper compounds*

- *long-chained chlorinated paraffins*
- *mercaptobenzothiazol (MBT)*

EU risk assessment in progress

The "Activities" fields also indicate whether or not a substance has been selected for submission to common risk assessment in the EU, as well as the country which has been appointed to conduct the assessment.

Some of the substances undergoing risk assessment have progressed so far into the EU process that any national initiatives must await the results of this common work within the EU.

The especially high-priority substances for which this activity is planned are:

- *ethyl glycol*
- *cadmium and cadmium compounds*
- *medium-chained chlorinated paraffins*
- *musk xylenes*
- *nickel*
- *tetrachloroethylene*
- *1,2,4 trichlorobenzene*
- *trichloroethylene*
- *tris(2-chlorethyl)phosphate.*

Classification initiatives

Certain substances are shown as already undergoing classification or as requiring assessment for classification in the future. This activity is included because a risk assessment is the first step in the final assessment of a given substance. In addition, the classification and labelling of a substance - or of the products of which it is an ingredient - will constitute vital information which purchasers and consumers can use, for instance, to reject the most hazardous chemicals.

Consumer products

Paints, varnishes and adhesives belong to the product groups in which some of the undesirable substances are included. The main problem here is use in consumer products, as consumers are not protected to the same high level as are operators in their working environments. Possible initiatives for these product groups will therefore primarily target the consumer sector.

Scientific studies

Finally, *scientific studies*, e.g., OECD danger assessments, intended to elucidate the environmental impact of the substances are already in progress. Any initiatives that target these substances will therefore not be started until the results of the studies are available.

Surveillance programme

In connection with the new national surveillance programme for the aquatic environment (NOVA 2003) (Danish EPA, Report No. 1, 2000) /20/, assays for about 275 chemical substances will be conducted on a large number of aquatic and environmental samples during the course of the programme. The LOUS indicates whether or not the individual substances or substance groups are within the scope of NOVA 2003.

Inspection

Many substances are classified as carcinogens, able to cause heritable genetic damage or to impair fertility, due either to a substance's properties or the presence of impurities. These substances must not be used in chemical products that are sold in retail trade. The Danish EPA's Chemical Inspection Service will investigate the use of these substances in consumer products during 2001-2002.

Information

Information campaigns are planned for certain substances and substance groups. To the extent that it is relevant, the campaigns will be co-ordinated and carried out in collaboration with the country's local councils and county councils.

4 Changes

This section briefly reviews the substances that have either been deleted from or added to this revised edition of the List of Undesirable Substances, in relation to the first, 1998 edition.

4.1 Substances deleted from LOUS

Reasons

Substances are mainly deleted from the LOUS for one or more of the following four reasons.

- In the first place, deletion can be the result of new information obtained from Department of Data on Chemical Products, National Working Environment Authority (the Product Register Department (National Institute of Occupational Health, Denmark)). Consumption can have dropped since 1997, so that the total consumption is now less than 100 tonnes annually. If the use of a chemical substance drops to below an annual 100 tonnes, however, that substance will still be listed on the List of Effects. Deletion can also result from new information from the National Working Environment Authority, which shows that a substance or substance group is not used in the pure form. In other words, the substance is only included in other chemical substances as an impurity.
- In the second place, the industry or manufacturers have obtained documentation and test results, which show that a substance that was earlier selected on the basis of QSAR calculations does not, in fact, have the expected harmful effects on the aquatic environment.
- The third reason is that the use of a substance or substance group has been regulated in law, thereby reducing the risk in the use phase.
- Finally, a substance or substance group can be deleted from the LOUS because new, improved QSAR models show that the substance does not, in fact, have the undesirable environmental effects found by earlier models.

The following substances or substance groups have been deleted since publication of the 1998 List. It is important to note that, unless a substance was dropped due to new test results or QSAR calculations, it can still be problematical. For instance, substances deleted from the LOUS because they are no longer used in quantities of over 100 tonnes/year are still problematical. They will, therefore, still be included on the List of Effects.

Substances deleted due to falling consumption or other information received from the National Working Environment Authority

C.I. pigment red 88 (CAS No. 14295-43-3) has been deleted because consumption in Denmark has fallen below 100 tonnes/year.

4,4'-diaminophenylmethane (CAS No. 101-77-9). No longer listed separately as it is not used in quantities of over 100 tonnes/year. On the other hand, this substance can be split from certain azo dyes for which reason, it is included on the List of carcinogenic arylamines.

Diethylenetriamine (CAS No. 111-40-0) has been deleted because consumption in Denmark has fallen below 100 tonnes/year.

Ethylglycolacetate (CAS No. 111-15-9) has been deleted because consumption in Denmark has fallen below 100 tonnes/year.

Colophony (rosin after removal of crude turpentine) (only the fractions with CAS Nos. 8052-10-6 and 73138-82-6) have been deleted because consumption in Denmark has fallen below 100 tonnes/year.

Methylglycol (CAS No. 109-86-4) has been deleted because consumption in Denmark has fallen below 100 tonnes/year.

Petroleum (only the one fraction, with CAS No. 8002-05-9) has been deleted because consumption in Denmark has fallen below 100 tonnes/year.

Vaseline (CAS No. 8009-03-8) has been deleted because consumption in Denmark has fallen below 100 tonnes/year.

PAHs have been deleted because by far the greater part occurs as impurities in oil derivatives. In other words, *PAHs* are not actively added to products, but can only occur in them as impurities.

Butane (CAS No. 106-97-8) has been deleted because the fractions that contain butadiene in concentrations of 0.1% or above are prohibited (*cf. the Statutory Order on restricting the sale and use of certain dangerous chemical substances and products for specially stated reasons, Danish EPA Statutory Order No. 1042, of 17 December 1997*). An investigation carried out by the Chemical Inspection Service showed that products that contained impurities in the form of benzene had benzene contents of far below the permissible concentration. A maximum of 1% benzene is permitted as an impurity in petrol.

Substances deleted because of new documentation

C. I. pigment blue 60 (CAS No. 81-77-6) has been deleted because new test results from the manufacturers have shown that the substance does not have long-term effects on the aquatic environment.

C. I. pigment yellow 13 (CAS No. 5102-83-0) has been deleted because new test results from the manufacturers have shown that the substance does not have long-term effects on the aquatic environment.

Substances deleted because of new regulation

Arsenic and arsenic compounds have been deleted because their use is regulated and restricted by the *Statutory Order on restricting the sale and use of certain dangerous chemical substances and products for specially stated reasons, Danish EPA Statutory Order No. 1042, of 17 December 1997*).

Hexachloroethane (CAS No. 67-72-1) has been deleted because its use is regulated and restricted by the *Statutory Order on restricting the sale and use of certain dangerous chemical substances and products for specially stated reasons, Danish EPA Statutory Order No. 1042, of 17 December 1997*).

Substances deleted because of improved QSAR calculations

2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis- (CAS No. 54208-63-8) has been deleted because new and improved QSAR calculations have shown that the substance is in all probability not bioaccumulable.

4.2 New substances on LOUS

As was mentioned above, a number of new substances have been added to this revised edition of the List of Undesirable Substances. The reasons for which these substances were selected for the LOUS can be found in the individual substances' or substance groups' data sheets in Section 5.

The following brief overview shows which new substances have been added to the LOUS.

Table 4.1

New substances or substance groups on the List of Undesirable Substances.

CAS No.	Name
80-05-7	4,4'-Isopropylidenediphenol
85-44-9	Phthalic anhydride
91-53-2	6-Ethoxy-1,2-dihydro-2,2,4-trimethylquinoline
92-52-4	Biphenyl
107-06-2	1,2-Dichloroethane
108-31-6	Maleic anhydride
108-67-8	Mesitylene
110-54-3	n-Hexane
110-82-7	Cyclohexane
111-30-8	Glutaraldehyde
111-42-2	Diethanolamin
112-24-3	3,6-Diazaoctane-1,8-diamine
115-96-8	Tris(2-chloroethyl)phosphate
142-82-5	Heptane
149-30-4	Mercaptobenzothiazole (MBT)
731-27-1	Dichloro-N-[(dimethylamino)sulfonyl]flour-N-(p-tolyl) methanesulfonamide
1300-71-6	Dimethylphenol
1303-96-4	Borax
1309-64-4	Antimontrioxide
1319-77-3	Cresol (mixed isomers)
1634-04-4	Methyl-tertiary-butylether (MTBE)
5329-14-6	Sulfamic acid
5873-54-1	Diphenylmethane-2,4'-diisocyanate
9016-87-9	Diphenylmethanediisocyanate, isomers and homologues
10043-35-3	Boric acid
13048-33-4	1,6-Hexamethylene diacrylate
15096-52-3	Cryolite
25036-25-3	Phenol, 4,4'-(1-methylethylidene)bis, polymer with 2,2-((1-methylethylidene)bis(
42978-66-5	(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate
64741-53-3	Distillates (petroleum), heavy naphthenic hydrocarbons
64741-65-7	Naphtha (petroleum), heavy alkylate
64741-77-1	Distillates (petroleum), light hydrocracked

64741-91-9	Distillates (petroleum), solvent-refined, medium heavy
64741-96-4	Distillates (petroleum), solvent-refined, heavy naphthene-
64742-04-7	Extracts (petroleum), heavy paraffin distillate solvent
64742-13-8	Distillates (petroleum), acid-treated, medium heavy
64742-49-0	Naphtha (petroleum), hydrogen-treated, light
64742-53-6	Distillates (petroleum), hydrogen-treated, light naphthene-
64742-88-7	Solvent naphtha (petroleum), medium heavy, aliphatic hydrocarbons
92045-53-9	Naphtha (petroleum), hydrodesulphurised light, de-aromatised
97722-04-8	Hydrocarbons, C ₂₆₋₅₅ , aromatic
Substance groups	Selected substances in perfume products (24 substances)

5 List of Undesirable Substances

5.1 Alkylphenols, e.g. nonylphenol, octylphenol

CAS Nos.

This substance group embraces many CAS Nos.

Product groups:

Epoxy products

Lubricant oils/products

Reason for selection:

Problematical substances in the waste cycle (nonylphenol)

Adverse effects in the aquatic environment.

Goals:

High priority is assigned to special action on these substances.

Restrictions on these substances are desired because of their concentrations found in and their impact on the environment, in connection with the use of residuals, such as sludge.

Classification:

Not yet on the List of Dangerous Substances. /1/

Present regulation:

Restrictions on use:

/4/ (Danish EPA Statutory Order on detergents and cleaning products), /16/ (Danish EPA Statutory Order on Classification, etc.), /25/ (EU Dir. on restriction of the marketing and use of certain dangerous products)

Quality criteria/limit values:

/3/ (Danish EPA Statutory Order on waste products intended for agricultural purposes), /29/ (Plant Department, on the inspection of waste-water sludge)

Working environment:

Miscellaneous regulations:

/6/ (European Commission on high-priority substances), /7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water), /120/ (Danish EPA Statutory Order on ships' stowage logs), /134/ (Water Framework Directive), /64/ (Danish EPA guideline on tannery sites), /65/, (Danish EPA guideline on boring control at waterworks), /135/ (Danish EPA guideline on soil analyses), /136/ (HELCOM)

Activities:

Danish EPA Environment Project No. 512, "Toxicological evaluation and limit values for nonylphenol, nonylphenol ethoxylates, tricresyl phosphates and benzoic acid," was published at the beginning of 2000.

Risk assessments of *nonylphenol* and *nonylphenoethoxylates* have been carried out in the EU. A risk reduction strategy is being drafted. Reporting state: England. A draft for an EU Directive is being prepared.

Work is in progress in OSPAR on initiatives aimed at reducing discharges and losses of *nonylphenol*, with a view to reducing their presence in marine areas to concentrations close to zero before 2020 /57/.

Nonylphenol is included in the national programme for monitoring of the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Octylphenol (CAS No. 27193-28-8) is included in the national programme for monitoring of the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Mapping the occurrence and fate of a selected substance (*nonylphenol*) in all media of the environment within a geographically demarcated area. National Environmental Research Institute project on substances alien to the environment. Expected date of completion: 2000.

A strategic plan for phase-out expected to be ready during 2000. Projects concerned with the development of alternatives to the use of alkylphenols in chemical products within the field of painting and building materials are in progress. These projects receive funding from the Cleaner Products Support Programme, etc., (Danish EPA).

5.2 Alkylphenol ethoxylates, e.g. nonylphenol ethoxylate, octylphenol ethoxylate

CAS Nos.:

This substance group embraces many CAS Nos.

Product groups:

Surfactants in detergents/cleaning products

Paints and varnishes

Cosmetics

Ancillary substances in pesticides

Reason for selection:

Problematical substances in the waste cycle (nonylphenol ethoxylate)

Hazardous to the aquatic environment.

Goals:

High priority is assigned to special action on these substances.

Restrictions on these substances are desired because of their concentrations found in and their impact on the environment, in connection with the use of residuals, such as sludge.

Classification:

Not yet on the List of Dangerous Substances /1/.

Present regulation:

Restrictions on use:

/4/ (Danish EPA Statutory Order on detergents and cleaning products), /8/ (European Commission on ecolabels for textile products), /9/ (European Commission on ecolabels for bed linen and T-shirts), /10/ (European Commission on ecolabels for detergents), /11/ (voluntary agreement between the Danish EPA and

the Association of Danish Cosmetics, Toiletries, Soap and Detergent Industries), /116/ (Danish EPA Statutory Order on sludge etc., for agriculture)

Quality criteria/limit values:

/3/ (Danish EPA Statutory Order on waste products intended for agricultural purposes), /29/ (Plant Department, on the inspection of waste-water sludge)

Working environment:

Miscellaneous regulations:

/109/ (Danish EPA guideline on industrial waste water), /136/ (HELCOM).

Activities:

Danish EPA Environment Project No. 512, "Toxicological evaluation and limit values for nonylphenol, nonylphenol ethoxylates, tricresyl phosphates and benzoic acid," was published at the beginning of 2000.

Risk assessments of *nonylphenol* and *nonylphenol ethoxylates* have been carried out in the EU. A risk reduction strategy is being drafted. Reporting state: England. A draft for an EU Directive is being prepared.

Nonylphenol ethoxylate is included in the national programme for monitoring of the aquatic environment 1998-2003, also called NOVA 2003 /20/.

The use of *alkylphenols* in spraying products is being phased out.

Mapping the occurrence and fate of a selected substance (nonylphenol ethoxylate) in all media of the environment within a geographically demarcated area. National Environmental Research Institute project on substances alien to the environment. Expected date of completion: 2000.

Work is in progress in OSPAR on initiatives aimed at reducing discharges and losses of *nonylphenol ethoxylates*, with a view to reducing their presence in marine areas to concentrations close to zero before 2020 /57/.

Octylphenol ethoxylate (CAS No. 9002-93-1) is included in the national programme for monitoring of the aquatic environment 1998-2003, also called NOVA 2003 /20/.

A strategic plan for phase-out expected to be ready during 2000. Projects concerned with the development of alternatives to the use of alkylphenols in chemical products within the field of painting and building materials are in progress. These projects receive funding from the Cleaner Products Support Programme, etc., (Danish EPA).

5.3 3-Aminomethyl-3,5,5-trimethyl cyclohexylamine

CAS No.:
2855-13-2

EINECS No.:
220-666-8

Synonym:
Isophorone diamine

Product groups:
Hardeners for cement, adhesives, paints, varnishes and plastics

Paints and undercoats

Flooring materials

Construction materials and casting/moulding compounds/materials

High-pressure cleaning agents

High-pressure additives (to coolants and lubricants)

Surface-treatment agents (for paper, cardboard and other non-metals)

Reason for selection:
Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:
Harmful to the health (R 21/22), corrosive (R 34), sensitising (R 43) and harmful to the environment (R 52/53).

Present regulation:
Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instructions governing suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

This substance is included in the national programme for monitoring of the aquatic environment 1998-2003, also called NOVA 2003 /20/.

An information campaign aimed at consumers is to be launched during 2000. This campaign will give information on the precautions to be taken when using such products as paints and varnishes.

5.4 Antimony trioxide

CAS No.:
1309-64-4

EINECS No.:
215-175-0

Product groups:
Paints and varnishes

Adhesives

Casting/moulding compounds/materials, including fillers

Fire-retarding additives to textiles, plastics, etc.

Reason for selection:
Systematically selected because of its classification.

Classification:
Carcinogenic (Carc3; R 40).

Present regulation:
Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.), /18/ National Consumer Agency of Denmark Statutory Order on safety requirements for toys and products, /28/ (Danish EPA Statutory Order on cosmetic products)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instructions governing suppliers' instructions for use of products)

Miscellaneous regulations:

/7/ (EU regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First added to the List of Undesirable Substances in 2000.

Is undergoing classification as an environmental hazard in the EU.

Is undergoing risk assessment in the EU. Reporting state: Sweden.

The project on environmental and health screening of alternatives to antimony trioxide is expected to be completed during 2000.

5.5 Azo dyes, which can split off carcinogenic arylamines

CAS/EINECS Nos.:

Substances which split off any of the following 21 carcinogenic arylamines:

1. *4-Aminobiphenyl* (CAS No. 92-67-1, EINECS 202-177-1)
2. *Benzidine* (CAS No. 92-87-5, EINECS 202-199-1)
3. *4-Chloro-o-toluidine* (CAS No. 95-69-2, EINECS 202-441-6)
4. *2-Naphthylamine* (CAS No. 91-59-8, EINEC 202-080-4)
5. *o-Aminoazotoluene* (CAS No. 97-56-3, EINECS 202-591-2)
6. *5-Nitro-o-toluidine* (CAS No. 99-55-8, EINECS 202-765-8)
7. *4-Chloraniline* (CAS No. 106-47-8, EINECS 203-401-0)
8. *4-Methoxy-m-phenylenediamine* (CAS No. 615-05-4, EINECS 210-406-1)
9. *4,4'-Diaminodiphenylmethane* (CAS No. 101-77-9, EINECS 202-974-4)
10. *3,3'-Dichlorobenzidine* (CAS No. 91-94-1, EINECS 202-109-0)

11. *o*-Dianisidine (CAS No. 119-90-4, EINECS 204-355-4)
12. 4,4'-Bis-*o*-toluidine (CAS No. 119-93-7, EINECS 204-358-0)
13. 4,4'-Methylendi-*o*-toluidine (CAS No. 838-88-0, EINECS 212-658-8)
14. 6-Methoxy-*m*-toluidine (CAS No. 120-71-8, EINECS 204-419-1)
15. 2,2'-Dichloro-4,4'-methyldianiline (CAS No. 101-14-4, EINECS 202-918-9)
16. 4,4 -Oxydianiline (CAS No. 101-80-4, EINECS 202-977-0)
17. 4,4 -Thiodianilin (CAS No. 139-65-1, EINECS 205-370-9)
18. *o*-Toluidin (CAS No. 95-53-4, EINECS 202-429-0)
19. 4-Methyl-*m*-phenylendiamin (CAS No. 95-80-7, EINECS 202-453-1)
20. 2,4,5-Trimethylanilin (CAS No. 137-17-7, EINECS 205-282-0)
21. *o*-Anisidin (CAS No. 90-04-0, EINECS 201-963-1)

Classification:**Examples from this group:**

The following two dyes are examples of azo dyes that are associated with a risk of splitting off one of the above-mentioned 21 arylamines.

Azo dyes

Direct brown 95 (CAS No. 16071-86-6: carcinogenic (Carc2; R 45).

Solvent yellow 3 (CAS No. 97-56-3): carcinogenic (Carc2; R 45) and sensitising (R 43).

Present regulation:Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /30/ (Danish EPA guideline on quality requirements on waters), /31/ (Danish EPA Statutory Order, the "Risk" Statutory Order), /61/ (EU regulation on the export and import of dangerous chemicals), /89/ (EU Directive on chemical agents)

Quality criteria/limit values:

/8/ (European Commission on ecolabels for textile products), /22/ (National Working Environment Authority instruction on limit values), /36/ (Danish EPA information on B values), /50/ (European Commission on ecolabels for footwear), /52/ (European Commission on ecolabels for bed mattresses)

Working environment:

/5/ (Directorate of Labour Inspection instructions governing suppliers' instructions for use of products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /75/ (EU Directive on the protection of employees)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /91/ (EU Regulation on List 1), /109/ (DEPA guideline on industrial waste water)

Activities:

Danish EPA Environment Project No. 509, 1999, "Survey of azo-colorants in Denmark" is a review of azo dyes in Denmark.

Many azo dyes are included in the national programme for monitoring of the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Presentations and information for the manufacturers of textile products, for buyers and designers and in conjunction with the revision and reprinting of the brochure *Håndbog om kemikalier i tøj* ("Chemicals in Textiles - Manual," Danish-language only).

Directives on restrictions on use are being drafted in the EU (due to the cancer risk).

5.6 Biphenyl

CAS No.:

92-52-4

EINECS No.:

202-163-5

Product groups:

Binding agents

Preservatives

Road-surfacing materials

Heat-transfer media

Sealing compounds

Impregnation products

Reason for selection:

Systematically selected because of its classification.

Classification:

Local irritant (R 36/37/38) and harmful to the environment (R 50/53).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values), /30/ (Danish EPA Statutory Order on waters and requirements on discharges)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First added to the List of Undesirable Substances in 2000.

Included in the national programme for monitoring of the aquatic environment 1998-2003, also called NOVA 2003 /20/.

5.7 2,2-Bis(p-(2,3-epoxy-propoxy)phenyl)-propane and bisphenol-A-diglycidyl ether reaction product

CAS No.:

1. 1675-54-3 (2,2-Bis(p-(2,3-epoxypropoxy)phenyl)-propane)
2. 25068-38-6 (Bisphenol-A-diglycidylether reaction product)

EINECS No.:

1. 216-823-5
2. 500-033-5

Product groups:

Paints and varnishes

Undercoats

Binding agents for paints, adhesives, etc.

Adhesives

Flooring materials

Paint and varnishes hardeners

Reason for selection:

Systematically selected because of classification and computerised assessment (harmful to the aquatic environment). Primarily problematical due to the extent to which it is used in consumer products.

Classification:

2,2-Bis(p-(2,3-epoxypropoxy)phenyl)-propane (CAS No. 1675-54-3): local irritant (R 36/38) down to 5% and sensitising (R 43).

Bisphenol-A-diglycidylether reaction product (homologous to an average molecular weight of 700)(CAS No. 25068-38-6): local irritant (R 36/38) down to 5%, sensitising (R 43) and harmful to the environment (R 51/53).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instructions governing suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /92/ (Directorate of Labour Inspection Statutory Order on epoxy resins and isocyanates)

Miscellaneous regulations:

/109/ (Danish EPA guideline on industrial waste water)

Activities:

This substance is included in the national programme for monitoring of the aquatic environment 1998-2003, also called NOVA 2003 /20/.

2,2-Bis(p-(2,3-epoxypropoxy)phenyl)-propane must also be assessed with a view to classification as an environmental hazard.

An information campaign being launched during 2000 is aimed at consumers. This campaign will give information on the precautions to be taken when using such products as paints and varnishes.

5.8 Lead and lead compounds

CAS Nos.:

See examples from the group listed under "Classification"

Product groups:

Accumulators and batteries

Plastics

Glass

Paints, glazes and pigments

Building materials and cable sheathing

Solder and fishing tackle

Reason for selection:

Problematical substances in the waste cycle.

Certain substances have been systematically selected because of their classifications.

Goals:

High priority is assigned to special action on these substances.

Restrictions on heavy metals are desired because of their harmful effects on the health and environment. No knowledge of substitution alternatives is available for certain areas of application, and work is needed to find technically and economically feasible alternatives in the future.

Restrictions on these substances are desired because of their concentrations found in and their impact on the environment and on the health, in connection with the use of residuals, such as slags, compost and sludge.

Classification:

Lead acetate, basic (CAS No. 1335-32-6): toxic to reproduction (Rep1, R 61; Rep3, R 62), danger of cumulative effects after repeated use (R 33) and harmful to the health (R 48/22).

Lead alkyls: toxic to reproduction (Rep1, R 61; Rep3, R 62), very toxic (R 26/27/28), danger of cumulative effects after repeated use (R 33) and harmful to the environment (R 50/53).

Lead azide (CAS No. 13424-46-9): toxic to reproduction (Rep1, R 61; Rep3, R 62), explosive (R 3), harmful to the health (R 20/22) and danger of cumulative effects after repeated use (R 33).

Lead chromate (CAS No. 7758-97-6): toxic to reproduction (Rep1, R 61; Rep3, R 62), carcinogenic (Carc3, R 40), danger of cumulative effects after repeated use (R 33) and harmful to the environment (R 50/53).

Lead chromate molybdate sulphate red (CAS No. 12656-85-8): toxic to reproduction (Rep1, R 61; Rep3, R 62), carcinogenic (Carc3, R 40) and danger of cumulative effects after repeated use (R 33).

Lead di(acetate) (CAS No. 301-04-2): toxic to reproduction (Rep1, R 61; Rep3, R 62), danger of cumulative effects after repeated use (R 33) and harmful to the health (R 48/22).

Lead hexafluorosilicate (CAS No. 25808-74-6): toxic to reproduction (Rep1, R 61; Rep3, R 62), harmful to the health (R 20/22) and danger of cumulative effects after repeated use (R 33).

Lead hydrogen arsenate (CAS No. 7784-40-9): carcinogenic (Carc1; R 45), toxic to reproduction (Rep1, R 61; Rep3, R 62), toxic (R 23/25) and danger of cumulative effects after repeated use (R 33).

Lead(II) methane sulphonate (CAS No. 17570-76-2): toxic to reproduction (Rep1, R 61; Rep3, R 62), harmful to the health (R 20/22-48/20/22), danger of cumulative effects after repeated use (R 33), local irritant (R 38-41) and harmful to the environment (R 58).

Trilead bis(orthophosphate) (CAS No. 7446-27-7): toxic to reproduction (Rep1, R 61; Rep3, R 62), harmful to the health (R 48/22) and danger of cumulative effects after repeated use (R 33).

Lead styphnate (CAS No. 15245-44-0): toxic to reproduction (Rep1, R 61; Rep3, R 62), explosive (R 3), harmful to the health (R 20/22) and danger of cumulative effects after repeated use (R 33).

Lead sulphochromate yellow (CAS No. 1344-37-2): toxic to reproduction (Rep1, R 61; Rep3, R 62) carcinogenic (Carc3; R 40) and danger of cumulative effects after repeated use (R 33).

Lead-2,4,6-trinitroresorcinolate (CAS No. 15245-44-0): toxic to reproduction (Rep1, R 61; Rep3, R 62), explosive (R 3), harmful to the health (R 20/22) and danger of cumulative effects after repeated use (R 33).

Other lead compounds: toxic to reproduction (Rep1, R 61; Rep3, R 62), harmful to the health (R 20/22) and danger of cumulative effects after repeated use (R 33).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on Restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /18/ (National Consumer Agency of Denmark Statutory Order on safety requirements for toys and products), /28/ (Danish EPA Statutory Order on cosmetic products), /31/ (Danish EPA Statutory Order, the "Risk" Statutory Order), /46/ (EU Directive on polluting of aquatic environments), /66/ (Danish EPA guideline on the classification etc., of chemical substances and products), /67/ (Danish EPA guideline on the restriction of air pollution by enterprises), /76/ (Danish EPA Statutory Order on the prohibition of lead shot), /90/ (Danish EPA Statutory Order on batteries and accumulators that contain dangerous substances)

Quality criteria/limit values:

/3/ (Danish EPA Statutory Order on waste products intended for agricultural purposes), /22/ (National Working Environment Authority instruction on limit values), /28/ (Danish EPA Statutory

Order on cosmetic products), /30/ (Danish EPA Statutory Order on waters and requirements on discharges), /34/ (Danish EPA Statutory Order on surface water used for drinking water), /36/ (Danish EPA information on B values), /54/ (Danish EPA: quality requirements on soil and drinking water), /55/ (Danish EPA: soil-quality criteria), /77/ (Danish EPA Statutory Order on sludge etc., intended for agricultural purposes), /78/ (Danish EPA Statutory Order on waste incineration), /79/ (Danish EPA Statutory Order on the use of slags and fly ash), /63/ (Danish EPA Statutory Order on the lead content of petrol, etc.)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances), /68/ (National Energy Agency Statutory Order on work on off-shore installations), /69/ ((Ministry of Labour instruction on the performance of work), /70/ (Ministry of Labour Statutory Order on metallic lead and its ionic compounds), /71/ (Ministry of Labour instruction on pregnancy and the working environment), /72/ (Directorate of Labour Inspection information on metallic lead), /73/ (EU Directive on the protection of young people at work), /74/ (EU Directive on pregnant women etc.), /75/ (EU Directive on the protection of employees) (EU Directive on the protection of employees)

Miscellaneous regulations:

/6/ (EU Commission directive on high-priority substances), /7/ (EU Regulation on the risks of existing substances), /42/ (EU Directive on dangerous waste), /49/ (EU regulation on waste transport), /62/ (Danish EPA Statutory Order on waste), /64/ (Danish EPA guideline on tannery sites), /65/ (Danish EPA guideline on boring control at waterworks), /80/ (Danish EPA Statutory Order on lead-acid accumulators etc.), /81/ (Danish EPA Statutory Order on surcharges on lead-acid accumulators), /82/ (Danish EPA Statutory Order on certain requirements on packaging), /109/ (Danish EPA guideline on industrial waste water), /134/ (Water Framework Directive), /136/ (HELCOM)

Activities:

Lead is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

An EU Directive, which will restrict the quantity, e.g., of lead in the air, is on the way.

The intention is to sort products containing the substances out of the waste stream with a view to special waste treatment.

High priority has been assigned to the substitution of lead in a number of products. These projects receive funding from the Cleaner Products Support Programme, etc., (Danish EPA).

A Statutory Order, on the prohibition of products containing lead, is expected to be issued during 2000. This Statutory Order will include a general prohibition - with exceptions - against lead compounds and specific prohibitions against metallic lead.

Work is in progress in OSPAR on reducing discharges and losses of lead, with a view to reducing their presence in marine areas to concentrations close to zero before 2020 /57/.

5.9 Boric acid and borax

CAS No.:

10043-35-3 (boric acid)

1303-96-4 (borax)

EINECS No.:

233-139-2 (boric acid)

Product groups:

Flame retarders

Cosmetics

Impregnation products

Toys

Reason for selection:

The use of these substances in Denmark is considered to give cause for concern.

Classification:

Undergoing classification in the EU. Denmark has proposed to the EU that the substances be classified as toxic to reproduction (Rep2, R 60; Rep3, R 63).

Present regulation:

Restrictions on use:

/16/ (Danish EPA Statutory Order on classification, etc.), /28/ (Danish EPA Statutory Order on cosmetic products)

Quality criteria/limit values:

Working environment:

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

At the beginning of 2000, the Danish EPA requested the Danish toy sector to phase out the use of these substances voluntarily. The request was made on the basis of the Danish proposal for classification of the substances.

Boric acid (CAS No. 10043-35-3) is undergoing risk assessment in the EU. Reporting state: Austria.

5.10 Brominated flame retardants

CAS Nos.:

This substance group embraces many CAS Nos.

Product groups:

Plastics

Textiles

Electronics

Reason for selection:

High priority in the marine environment

Goals:

High priority is assigned to special action on these substances.

Restrictions on these substances are desired because of their diffuse distribution, e.g., in the marine environment, and increasing frequency of occurrence in breast milk.

Classification:

Not yet on the List of Dangerous Substances /1/.

Present regulation:

Restrictions on use:

/15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances to specific purposes, 1997), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

Miscellaneous regulations:

/49/ (EU regulation on waste transport), /109/ (Danish EPA guideline on industrial waste water), /134/ (Water Framework Directive)

Activities:

Mass stream analysis for brominated flame retardants, "Brominated Flame Retardants," published at the end of 1999. Danish EPA Environment Project No. 494.

Polybrominated diphenyl ethers (PBDE) penta-, octa- and deca- and hexabromocyclododecane are undergoing assessment in the EU. Reporting states: England, France and Sweden.

Polybrominated biphenyls (PBB) are undergoing assessment in the OECD /137/.

A number of projects concerned with substitutions for brominated flame retardants in selected products have high priority. These projects receive funding from the the Cleaner Products Support Programme, etc., (Danish EPA).

Work is in progress in OSPAR, on initiatives for reducing discharges and losses of brominated flame retardants, with a view to reducing their presence in marine areas to concentrations close to zero before 2020 /57/.

A draft action plan for brominated flame retardants was sent for a hearing in April 2000. The final action plan is expected around mid-2000.

Projects concerned with environmental and health screening of the alternatives are under way are expected around mid-2000.

5.11 2-Butanonoxime

CAS No.:

96-29-7

EINECS No.:

202-496-6

Synonym:

Methyl ethyl ketoxime

Product groups:

Paints and varnishes

Rust preventives

Wood-impregnation products

Serigraphic dyes

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Sensitising (R 43) and local irritant (R 36).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /88/ (Directorate of Labour Inspection Statutory Order on volatile substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

This substance's classification is being reviewed in the EU.

5.12 Cadmium and cadmium compounds

CAS Nos.:

See examples from the group listed under "Classification".

Product groups:

Electronic components

Plastics

Batteries and accumulators

Pigments

Cadmium plating

Reason for selection:

Problematical substances in the waste cycle.

High priority in the marine environment (batteries).

Goals:

High priority is assigned to special action on these substances.

Restrictions on heavy metals are desired because of their harmful effects on the health and environment. No knowledge of substitution alternatives is available for certain areas of application today. Work is needed to find technically and economically feasible alternatives in the future.

Restrictions on these substances are desired because of their impact on the health and environment, in connection with the use of residuals, such as slags, compost and sludge.

Classification:

Examples from this group:

Cadmium chloride (CAS No. 10108-64-2): carcinogenic (Carc2; R 45) and toxic (R 48/23/25).

Cadmium cyanide (CAS No. 542-83-6): very toxic (R 26/27/28), danger of cumulative effects after repeated use (R 33), a highly toxic gas is liberated by contact with acids (R 32) and there is the possibility of irreversible effects on the health (R 40). This substance has various classifications, depending on the concentration.

Cadmium fluoride (CAS No. 7790-79-6), *cadmium formiate* (CAS No. 4464-23-7), *cadmium hexafluorosilicate* (CAS No. 17010-21-8) and *cadmium iodide* (CAS No. 7790-80-9): toxic (R 23/25), danger of cumulative effects after repeated use (R 33) and there is the possibility of irreversible effects on the health (R 40). This substance has various classifications, depending on the concentration.

Cadmium oxide (CAS No. 1306-19-0) and *cadmium sulphate* (CAS No. 10124-36-4): carcinogenic (Carc2; R 49), harmful to the health (R 22) and toxic (R 48/23/25).

Cadmium sulphide (CAS No. 1306-23-6): carcinogenic (Carc3; R 40), harmful to the health (R 22) and toxic (R 48/23/25).

Other cadmium compounds: harmful to the health (R 20/21/22).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /18/ (National Consumer Agency of Denmark Statutory Order on safety requirements for toys and products), /28/ (Danish EPA Statutory Order on cosmetic products), /95/ (Danish EPA Statutory Order on Cd in fertiliser), /96/ (Danish EPA Statutory Order on prohibition of Cd products), /134/ (Water Framework Directive), /90/ (Danish EPA Statutory Order on batteries and accumulators that contain dangerous substances)

Quality criteria/limit values:

/3/ (Danish EPA Statutory Order on waste products intended for agricultural purposes), /22/ (National Working Environment Authority instruction on limit values), /30/ (Danish EPA Statutory Order on waters and requirements on discharges), /36/ (Danish EPA information on B values) /47/ (EU Directive on the quality of bathing water), /54/ (Danish EPA: quality requirements on soil and drinking water), /55/ (Danish EPA: soil-quality criteria), /77/ (Danish EPA Statutory Order on sludge etc., intended for agricultural purposes), /78/ (Danish EPA Statutory Order on waste incineration), /97/ (Danish EPA Statutory Order on Cd in industrial process water), /98/ (Danish EPA Statutory Order on surfactants in detergents and cleaning products), /99/ (Danish EPA Statutory Order on limit values for Hg)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances), /100/ (Ministry of Labour on the use of certain Cd soldering products)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /62/ (Danish EPA Statutory Order on waste), /82/ (Danish EPA Statutory Order on certain requirements on packaging), /93/ (EU regulation on List III), /94/ (EU regulation on information on existing substances), /101/ (Danish EPA Statutory Order on sealed Ni-Cd batteries), /109/ (Danish EPA guideline on industrial waste water), /134/ (Water Framework Directive), /136/ (HELCOM)

Activities:

Cadmium (CAS No. 7440-19-0) and *cadmium oxide* (CAS No. 1306-19-0) are undergoing risk assessment in the EU. Reporting state: Belgium.

The Commission of the European Community has presented proposals for phasing out the use of cadmium in batteries.

In the EU, prohibitions or restrictions on use are being considered for: *cadmium sulphide*, *cadmium mercury sulphide*, *cadmium stearate*, *cadmium dilaurate*, *cadmium zinc sulphide yellow*, *cadmium sulphoselenide orange* and *cadmium sulphoselenide red*.

Cadmium is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

The intention is to sort products containing these substances out of the waste stream with a view to special waste treatment.

An EU Directive, which will limit the the amount, e.g., of cadmium, in the air is on the way.

A mass-stream analysis for cadmium is being prepared and is expected during 2000.

During 2000, monitoring authorities in the EU will launch a joint campaign to investigate whether or not the requirements of EU Directive 91/338/EEC are being observed.

Work is in progress on initiatives in OSPAR for reducing discharges and losses of cadmium, with a view to reducing their presence in the marine areas to concentrations of close to zero before 2020 /57/.

5.13 Chlorinated solvents

5.13.1 1,2-dichloroethane

CAS No.:

107-06-2

EINECS No.:

203-458-1

Product groups:

Solvents

Sealing compounds

Degreasing agents

Reason for selection:

This substance is encompassed by political goals of phase-out. Because of its harmful effects on the aquatic environment, a special initiative in the EU has been assigned high priority.

Classification:

Carcinogenic (Carc2; R 45), highly flammable (R 11), harmful if swallowed (R 22) and local irritant (R 36/37/38).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /61/ (EU regulation on the export and import of dangerous chemicals), /134/ (Water Framework Directive)

Quality criteria/limit values:

/30/ (Danish EPA Statutory Order on waters and requirements on discharges), /46/ (EU Directive on polluting of aquatic environments), /126/ (EU Directive on child-resistant fastenings)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water), /125/ (Danish EPA guideline on air pollution), /134/ (Water Framework Directive), /136/ (HELCOM)

Activities:

First listed on List of Undesirable Substances in 2000.

1,2-dichloroethane is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

5.13.2 1,2-dichloromethane

CAS No.:
75-09-2

EINECS No.:
200-838-9

Synonym:
Methylene chloride

Product groups:
Paint and varnish strippers

Solvent-based adhesives

Solvents

Releasing agents, including mould releasing agents for plastics and other applications

Cleaning products

Adhesive hardeners

Thinners (for paints, varnishes, adhesives, etc.)

Reason for selection:
Systematically selected because of its classification.

Goals:
High priority is assigned to special action on this substance.

Restrictions on this substance are desired because of its harmful effects on the health.

Classification:
Carcinogenic (Carc3; R 40).

Present regulation:Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /28/ (Danish EPA Statutory Order on cosmetic products), /134/ (Water Framework Directive), /138/ (Ministry of Taxation Promulgation Act on surcharges on chlorinated solvents)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values), /30/ (Danish EPA Statutory Order on waters and requirements on discharges), /36/ (Danish EPA information on B values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances), /88/ (Directorate of Labour Inspection Statutory Order on volatile substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water), /125/ (Danish EPA guideline on air pollution), /126/ (EU Directive on child-resistant fastenings), /134/ (Water Framework Directive), /136/ (HELCOM)

Activities:

1,2-dichloromethane is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Undergoing classification as an environmental hazard in the EU.

A Danish EPA Environment Project concerning the use of this substance in paint and varnish strippers and a mapping of possible alternatives will be published during 2000.

A new Directive, which restricts the use of dichloromethane is being drafted in the EU.

5.13.3 Tetrachloroethylene

CAS No.:

127-18-4

EINECS No.:

204-825-9

Synonym:

Perchloroethylene

Product groups:

Cleaning products

Dry cleaning

Degreasing agents and solvents

Reason for selection:

Systematically selected because of its classification.

Goals:

High priority is assigned to special action on this substance.

Restrictions/total phasing-out of this substance is desired because of the concentrations found in groundwater.

Classification:

Carcinogenic (Carc3; R 40) and harmful to the environment (R 51/53).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /28/ (Danish EPA Statutory Order on cosmetic products), /138/ (Ministry of Taxation Promulgation Act on surcharges on chlorinated solvents)

Quality criteria/limit values:

/30/ (Danish EPA Statutory Order on waters and requirements on discharges), /36/ (Danish EPA information on B values), /108/ (Danish EPA Statutory Order on List-1 substances), /127/ (EU Directive on limit values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /22/ (National Working Environment Authority instruction on limit values)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /64/ (Danish EPA guideline on tannery sites), /109/ (Danish EPA guideline on industrial waste water), /125/ (Danish EPA guideline on air pollution), /136/ (HELCOM)

Activities:

Tetrachloroethylene is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Undergoing risk assessment in the EU. Reporting state: England. Other regulatory initiatives are pending on this assessment.

This substance's classification is undergoing reappraisal in the EU.

5.13.4 Trichloroethylene

CAS No.:

79-01-6

EINECS No.:

201-167-4

Product groups:

Cleaning products

Adhesives

Solvents

Paint and varnish strippers

Serigraphic dyes

Binding agents

Reason for selection:

Systematically selected because of its classification.

Goals:

High priority is assigned to special action on this substance.

Restrictions/phasing out of this substance are desired because of the concentrations found in groundwater and because of its harmful effect on the health.

Classification:

Carcinogenic (Carc3; R 40) and harmful to the environment (R 52/53).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /138/ (Ministry of Taxation Promulgation Act on surcharges on chlorinated solvents)

Quality criteria/limit values:

/30/ (Danish EPA Statutory Order on waters and requirements on discharges), /36/ (Danish EPA information on B values), /108/ (Danish EPA Statutory Order on List-1 substances), /127/ (EU Directive on limit values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /22/ (National Working Environment Authority instruction on limit values), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /64/ (Danish EPA guideline on tannery sites), /109/ (Danish EPA guideline on industrial waste water), /125/ (Danish EPA guideline on air pollution), /136/ (HELCOM)

Activities:

Trichloroethylene is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Undergoing risk assessment in the EU. Reporting state: England. Additional regulation is pending on this assessment.

5.14 Chlorinated paraffins (short-, medium- and long-chained)

CAS No.:

Chlorinated paraffins form a non-homogeneous substance group, for which there are many CAS Nos., depending on the chlorination and molecular size of the paraffins.

Product groups:

Adhesives

Coolants/lubricants and cutting oils

Paints

Plastics and flame retardants

Reason for selection:

High priority in the marine environment.

Goals:

High priority is assigned to special action on these substances.

Restrictions on these substances are desired because of their diffuse distribution in the marine environment.

Classification:

Not yet on the List of Dangerous Substances /1/. A proposal in the EU recommends that the short-chained chlorinated paraffins (*CAS No. 85535-84-8*) be classified as carcinogenic (Carc3; R 40) and harmful to the aquatic environment (R 50/53).

Present regulation:

Restrictions on use:

/16/ (Danish EPA Statutory Order on classification, etc.), /134/ (Water Framework Directive)

Quality criteria/limit values:

Working environment:

/12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products)

Miscellaneous regulations:

/109/ (Danish EPA guideline on industrial waste water), /136/ (HELCOM)

Activities:

The short-chained chlorinated paraffins, *C'10-13' chlorinated alkanes (CAS No. 85535-84-8)*, have undergone risk assessment in the EU. A new EU Directive, which restricts the use of the short-chained chlorinated paraffins in certain fields of application, is on the way.

The medium-chained chlorinated paraffins, *C'14-17' chlorinated paraffins (CAS No. 85535-85-9)*, are undergoing risk assessment in the EU, including assessment of how they shall be classified. Reporting state: England. Additional regulatory initiatives are pending on this assessment.

High priority has been given to a number of projects concerned with substitution for the medium-chained chlorinated paraffins in selected products. These projects receive funding from the the Cleaner Products Support Programme, etc., (Danish EPA).

Work is in progress on initiatives in OSPAR for reducing discharges and losses of the short-chained chlorinated paraffins, with a view to reducing their presence in the marine areas to concentrations of close to zero before 2020 /57/.

5.15 Chromium compounds

CAS Nos.:

See examples from the group listed under "Classification".

Product groups:

Impregnated wood

Paints

Chromium plating

Cleaning products

Imported leather

Reason for selection:

Problematical substances in the waste cycle.

Certain substances have been systematically selected because of their classifications.

Goals:

High priority is assigned to special action on these substances.

Restrictions on these substances are desired because of their concentrations found in and their impact on the environment and on the health, in connection with the use of residuals, such as slags, compost and sludge.

Classification:

Examples from this group

Ammonium dichromate (CAS No. 7789-09-5): carcinogenic (Carc2; R 49), mutagenic (Mut2; R 46), very toxic (R 26), toxic (R 25), harmful to the health (R 21), sensitising (R 43), local irritant (R 37/38-41), oxidising (R 8), explosive (R 1) and harmful to the environment (R 50/53).

Calcium chromate (CAS No. 13765-19-0), strontium chromate (CAS No. 7789-06-2): carcinogenic (Carc2; R 45), harmful to the health (R 22) and harmful to the environment (R 50/53).

Chromium(VI) compounds, with the exception of barium chromate and the substances mentioned below: carcinogenic (Carc2; R 49) sensitising (R 43) and harmful to the environment (R 50/53).

Chromium trioxide (CAS No. 1333-82-0): carcinogenic (Carc1; R 49), toxic (R 25), oxidising (R 8), corrosive (R 35), sensitising (R 43) and harmful to the environment (R 50/53).

Chromyl dichloride (CAS No. 14977-61-8): carcinogenic (Carc2; R 49) and mutagenic (Mut2; R 46), oxidising (R 8), corrosive (R 35), sensitising (R 43) and harmful to the environment (R 50/53).

Dichromtris(chromate) (CAS No. 24613-89-6): carcinogenic (Carc2; R 45), corrosive (R 35), sensitising (R 43), oxidising (R 8) and harmful to the environment (R 50/53).

Potassium chromate (CAS No. 7789-00-6): carcinogenic (Carc2; R 49), mutagenic (Mut2; R 46), local irritant (R 36/37/38), sensitising (R 43) and harmful to the environment (R 50/53).

Potassium dichromate (CAS No. 7778-50-9): carcinogenic (Carc2; R 49), mutagenic (Mut2; R 46), very toxic (R 26), toxic (R 25), harmful to the health (R 21), sensitising (R 43), local irritant (R 37/38-41) and harmful to the environment (R 50/53).

Sodium dichromate (CAS No. 10588-01-9): carcinogenic (Carc2; R 49), mutagenic (Mut2; R 46), very toxic (R 26), toxic (R 25), harmful to the health (R 21), sensitising (R 43), local irritant (R 37/38-41), oxidising (R 8) and harmful to the environment (R 50/53).

Sodium dichromate, dihydrate (CAS No. 7789-12-0): carcinogenic (Carc2; R 49), mutagenic (Mut2; R 46), very toxic (R 26), toxic (R 25), harmful to the health (R 21), local irritant (R 37/38-41), sensitising (R 43) and harmful to the environment (R 50/53).

Zinc chromates: carcinogenic (Carc1; R 45), harmful to the health (R 22), sensitising (R 43) and harmful to the environment (R 50/53).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /28/ (Danish EPA Statutory Order on cosmetic products), /45/ (Directorate of Labour Inspection Statutory Order on F-gas containers in vehicles)

Quality criteria/limit values:

/8/ (EU Commission on ecolabels for textile products), /22/ (National Working Environment Authority instruction on limit values), /30/ (Danish EPA Statutory Order on waters and requirements on discharges), /36/ (Danish EPA information on B values), /55/ (Danish EPA: soil-quality criteria), /78/ (Danish EPA Statutory Order on waste incineration), /105/ (European Commission on ecolabels for double-ended light bulbs), /106/ (European Commission on ecolabels for single-ended light bulbs)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances), /107/ (Directorate of Labour Inspection Statutory Order on Cr in cement)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /64/ (Danish EPA guideline on tannery sites), /82/ (Danish EPA Statutory Order on certain requirements on packaging), /93/ (EU regulation on List III), /102/ (Danish EPA guideline on surface treatment of ships), /103/ (Danish EPA Statutory Order on quality requirements/environmental goals), /104/ (Danish EPA guideline on on pollution from fish farms), /109/ (Danish EPA guideline on industrial waste water), /136/ (HELCOM)

Activities:

Chromium is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Chromium trioxide (CAS No. 1333-82-0), sodium chromate (CAS No. 7775-11-3), potassium chromate (CAS No. 7778-50-9), ammonium dichromate (CAS No. 7789-09-5) and sodium dichromate (CAS No. 10588-01-9) are undergoing risk assessment in the EU. Reporting state: England. Additional regulatory initiatives are pending on this assessment.

The intention is to sort products containing these substances out of the waste stream with a view to special waste treatment.

A mass stream analysis for chromium compounds is being implemented under the Cleaner Products Support Programme, etc., (Danish EPA).

5.16 Creosote compounds with carcinogenic impurities

CAS/EINECS Nos.:

1. *Creosote oil (CAS No. 61789-28-4, EINECS No. 263-047-8)*
2. *Extract residues (coal), low temp. alk. (CAS No. 122384-78-5, EINECS No. 310-191-5)*
3. *Anthracene oil (CAS No. 90640-80-5, EINECS No. 292-602-7)*
4. *Coal-tar creosote (CAS No. 8001-58-9, EINECS No. 232-287-5)*
5. *Creosote oil (acenaphthene fraction) (CAS No. 90640-84-9, EINECS No. 292-605-3)*
6. *Tar acids, coal, crude (CAS No. 65996-85-2, EINECS No. 266-019-3)*
7. *Coal-tar (naphthalene oils) (CAS No. 84650-04-4, EINECS No. 292-611-6)*
8. *Distillates (coal tar), upper (CAS No. 65996-91-0, EINECS No. 266-026-1)*
9. *Beechwood creosote (CAS No. 8021-39-4)*

Product groups:

Sealing compounds

Paint and varnish hardeners

Building materials

Undercoats and anti-rust products

Reason for selection:

Political goal of total phase-out.

Systematically selected because of their classification.

Goals:

High priority is assigned to special action on these substances.

Restriction of the use of these substances is desired because of their harmful effects on the health.

Classification:

All compounds with the exception of beechwood creosote: carcinogenic (Carc2; R 45) at $\leq 0.005\%$ w/w benzo(a)pyrene and/or 0.1% benzene as markers. The classification of anthracene oil (CAS No. 90640-80-5) and distillates (coal-tar), upper (CAS No. 65996-91-0) with only benzo(a)pyrene as the marker.

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.), /25/ (EU Dir. on restriction of the marketing and use of certain dangerous products), /131/ (Danish EPA Statutory Order on creosote)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances)

Miscellaneous regulations:

Activities:

To be assessed additionally with a view to stricter classification in the EU.

5.17 Cryolite

CAS No.:
15096-52-3

EINECS No.:
239-148-8

Product groups:
Fluxes

Cleaning products

Heat-transfer media

Friction agents

Cleaning products for boilers and tanks

Casting/moulding compounds/materials

Reason for selection:
Systematically selected because of its classification.

Classification:
Harmful to the health (R 20/22), toxic (R 48/23/25) and harmful to the environment (R 51/53).

Present regulation:
Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.), /25/ (EU Dir. on restriction of the marketing and use of certain dangerous products)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /93/ (EU regulation on List III), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

This substance is undergoing danger assessment in the OECD /137/.

5.18 Cyclohexane

CAS No.:

110-82-7

EINECS No.:

203-806-2

Product groups:

Adhesives

Paints and varnishes

Solvents, thinners (for paints, varnishes, adhesives, etc.)

Undercoats

Degreasing agents

Filler products

Water softeners

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Highly flammable (R 11), harmful to the health (R 65), local irritant (R 38), harmful to the environment (R 50/53) and R 67 (vapours may cause drowsiness and dizziness).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values), /36/ (Danish EPA information on B values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /91/ (EU Regulation on List I), /109/ (Danish EPA guideline on industrial waste water), /136/ (HELCOM)

Activities:

First listed on List of Undesirable Substances in 2000.

Undergoing risk assessment in the EU. Reporting state: France. Additional regulatory initiatives are pending on this assessment.

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.19 Petroleum distillates

CAS/EINECS Nos.:

1. *Light hydro-cracked hydrocarbons (CAS No. 64741-77-1, EINECS No. 265-078-2)*
2. *Heavy naphthenic hydrocarbons (CAS No. 64741-53-3, EINECS No. 265-054-1)*
3. *Extracts (petroleum), heavy paraffinic distillate solvent (CAS No. 64742-04-7, EINECS No. 265-103-7)*
4. *Solvent naphtha, medium heavy, aliphatic hydrocarbons (CAS No. 64742-88-7, EINECS No. 265-191-7)*

Product groups:

Releasing agents

Coolants/lubricants

Anti-rust products

Solvents

Adhesives

Paints

Reason for selection:

Systematically selected because of their classifications.

Classification:

Distillates (petroleum), light hydrocracked (CAS No. 64741-77-1); carcinogenic (Carc3; R 40).

Distillates (petroleum), heavy naphthenic (CAS No. 64741-53-3): carcinogenic (Carc1; R 45).

Extracts (petroleum), heavy paraffinic distillate solvent (CAS No. 64742-04-7): carcinogenic (Carc2; R 45).

Solvent naphtha, petroleum, medium aliph. (CAS No. 64742-88-7): flammable (R 10), harmful to the health (R 65) and (R 48/20).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.), /25/ (EU Directive on restriction of the marketing and use of certain dangerous products)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

5.20 3,6-Diazaoctane-1,8-diamine

CAS No.:

112-24-3

EINECS No.:

203-950-6

Synonym:

Triethylenetetramine

Product groups:

Hardeners, e.g., for concrete, adhesives, paints and varnishes and plastics

Paints

Casting/moulding compounds/materials

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Harmful to the health (R 21), corrosive (R 34), sensitising (R 43) and harmful to the environment (R 52/53).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

This substance is undergoing danger assessment in the OECD /137/.

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.21 3,3'-Dichlorobenzidine dihydrochloride

CAS No.:

612-83-9

EINECS No.:

210-323-0

Synonym:

3,3'-Dichloro-(1,1'-biphenyl)-4,4'-diamine dihydrochloride

Product groups:

Dyes

Reason for selection:

Systematically selected because of its classification.

Classification:

Carcinogenic (Carc2, R 45), harmful to the health (R 21), sensitising (R 43) and harmful to the environment (R 50/53).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

5.22 Dichloro-N- [(dimethylamino)sulfonyl]fluoro-N-(p- tolyl)methanesulfenamide

CAS No.:
731-27-1

EINECS No.:
211-986-9

Synonym:
Tolylfluamid

Product groups:
Paints

Wood-impregnation products

Fungicides

Preservatives

Reason for selection:
Systematically selected because of its classification.

Classification:
Toxic (R 23), local irritant (R 36/37), sensitising (R 43) and harmful to the environment (R 50/53).

Present regulation:
Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

This substance is undergoing danger assessment in the OECD /137/.

5.23 Diethanolamine

CAS No.:

111-42-2

EINECS No.:

203-868-0

Synonym:

2,2'-Iminodiethanol

Product groups:

Coolants/lubricants for metal-working

Cleaning products

Degreasing agents

Releasing agents for plastic metal-working

Paints

Film developers

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Harmful to the health (R 22-R 48/22) and local irritant (R 38- R 41).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water), /125/ (Danish EPA guideline on air pollution)

Activities:

First listed on List of Undesirable Substances in 2000.

This substance is undergoing danger assessment in the OECD /137/.

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.24 Dimethylphenol

CAS No.:
1300-71-6

EINECS No.:
215-089-3

Synonym:
Xylenol

Product groups:
Paint and varnish hardeners

Paints

Cleaning products

Reason for selection:

Systematically selected because of its classification.

Classification:

Toxic (R 24/25), corrosive (R 34) and harmful to the environment (R 51/53).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.25 Ethylene glycol monoethyl ether

CAS No.:

110-80-5

EINECS No.:

203-804-1

Synonym:

2-ethoxyethanol

Product groups:

Paints and varnishes

Undercoats

Thinners

Reason for selection:

Systematically selected because of its classification.

Goals:

High priority is assigned to special action on this substance.

Restrictions on this substance are desired because of its harmful effects on the health.

Classification:

Toxic to reproduction (Rep2; R 60, Rep2; R 61), harmful to the health (R 20/21/22) and flammable (R 10).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /59/ (Danish EPA Statutory Order on propellants and solvents in aerosol canisters)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values), /36/ (Danish EPA information on B values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /88/ (Directorate of Labour Inspection Statutory Order on volatile substances)

Miscellaneous regulations:

/6/ (European Commission directive on high-priority substances), /7/ (EU Regulation on the risks of existing substances), /64/ (Danish EPA guideline on tannery sites), /67/ (Danish EPA guideline on the restriction of air pollution by enterprises), /109/ (Danish EPA guideline on industrial waste water)

Activities:

Undergoing risk assessment in the EU. Reporting state: Germany. Additional regulatory initiatives are pending on this assessment.

High priority has been assigned to a number of projects working on substitutes for ethylene glycol monoethyl ether in selected products. Funding from the the Cleaner Products Support Programme, etc., (Danish EPA).

5.26 6-Ethoxy-1,2-dihydro-2,2,4-trimethylquinoline

CAS No.:
91-53-2

EINECS No.:
202-075-7

Synonym:
Ethoxyquin

Product groups:
Preservatives

Biocides

Reason for selection:
Systematically selected on the basis of computerised assessment (QSAR), which show that this substance is harmful to the aquatic environment.

Classification:
Harmful to the health (R 22)

Present regulation:
Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products)

Miscellaneous regulations:

/109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

Undergoing re-assessment with respect to environmental classification in the EU.

5.27 Formaldehyde

CAS No.:

50-00-0

EINECS No.:

200-002-8

Product groups:

Paints and varnishes

Preservatives

Textiles and dyes

Cosmetics

Reason for selection:

Systematically selected because of its classification.

Goals:

High priority is assigned to special action on this substance.

Restrictions on this substance are desired because of its harmful effects on the health.

Classification:

Carcinogenic (Carc3; R 40), toxic (R 23/24/25), sensitising (R 43) and corrosive (R 34).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /28/ (Danish EPA Statutory Order on cosmetic products), /128/ (Danish EPA Statutory Order on formaldehyde)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values), /28/ (Danish EPA Statutory Order on cosmetic products), /30/ (Danish EPA Statutory Order on waters and requirements on discharges), /36/ (Danish EPA information on B values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances), /88/ (Directorate of Labour Inspection Statutory Order on volatile substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /31/ (Danish EPA Statutory Order, the "Risk" Statutory Order), /86/ (EU Directive on emissions from motor vehicles), /109/ (Danish EPA guideline on industrial waste water)

Activities:

An amendment is planned to the Statutory Order on the release of formaldehyde from chipboard, so that release from surface treatments is included.

Danish EPA Environmental Project No. 501, *Emission af flygtige forbindelser fra træ, træbaserede materialer, møbler og inventar* ("Emissions of volatile compounds from wood, wood-based materials, furniture and fittings," Danish-language only) was published in 1999. This project describes, e.g., the types of wood that release formaldehyde.

Danish EPA Environmental Project No. 511, "Toxicological evaluation and limit values for methyl tertiary-butyl ether (MTBR), formaldehyde, glutaraldehyde and furfural" was published at the beginning of 2000.

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.28 Glutaric dialdehyde

CAS No.:

111-30-8

EINECS No.:

203-856-5

Synonym:

1,5-pentanedial

Product groups:

Disinfectants

Cleaning products

Developers

Preservatives

Anti-fouling products, e.g., used off-shore

Wax and other polishes for flooring

Reason for selection:

Systematically selected because of its classification.

Classification:

Toxic (R 23/25), corrosive (R 34), sensitising (R 42/43) and harmful to the environment (R 50).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.), /28/ (Danish EPA Statutory Order on cosmetic products)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

This substance is undergoing danger assessment in the OECD /137/.

5.29 Hexachlorobenzene

CAS No.:

118-74-1

EINECS No.:

204-273-9

Product groups:

Fungicides

Reason for selection:

High priority in the aquatic environment.

A special initiative in the EU has been assigned high priority, because of this substance's harmful effects on the aquatic environment.

Classification:

Carcinogenic (Carc2; R 45), toxic (R 48/25) and harmful to the environment (R 50/53).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /61/ (EU regulation on the export and import of dangerous chemicals), /111/ (Danish EPA Statutory Order on amendment of the Act on chemical substances and products), /134/ (Water Framework Directive)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values), /30/ (Danish EPA Statutory Order on waters and requirements on discharges), /108/ (Danish EPA Statutory Order on List-1 substances), /110/ (EU Directive on limit values), /112/ (Danish EPA Statutory Order on limit values for List I substances)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water), /134/ (Water Framework Directive), /136/ (HELCOM)

Activities:

Mapping the substance's occurrence and fate in all media of the environment within a geographically demarcated area. National Environmental Research Institute project on substances alien to the environment. Expected date of completion: 2000.

Hexachlorobenzene is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

5.30 1,6-Hexanedioldiacrylate

CAS No.:

13048-33-4

EINECS No.:

235-921-9

Synonym:

Hexamethylene diacrylate

Product groups:

Printing inks

Paints, including protective varnishes and masking varnishes (masking inks)

Binding agents

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Local irritant (R 36/38) and sensitising (R 43).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/30/ (Danish EPA Statutory Order on waters and requirements on discharges)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.31 Hydrocarbons, C₂₆₋₅₅, aromatic

CAS No.:

97722-04-8

EINECS No.:

307-753-7

Product groups:

Sealing compounds

Binding agents

Synthesis of raw materials

Impregnation products

Reason for selection:

Systematically selected because of its classification.

Classification:

Carcinogenic (Carc2; R 45).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.), /25/ (EU Directive on restriction of the marketing and use of certain dangerous products)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour

Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

The Danish EPA's Chemical Inspection Service will investigate the use of these substances in consumer products during 2001-2002.

5.32 Hydrogenated fluorocarbons (HFC)

CAS Nos.:

HFC 134a (CAS No. 811-97-2, EINECS No. 212-377-0)

HFC 125 (CAS No. 354-33-6, EINECS No. 206-557-8)

HFC 143a (CAS No. 420-46-2, EINECS No. 206-996-5)

HFC 152a (CAS No. 75-37-6, EINECS No. 200-866-1)

Product groups:

Hard white goods

Spray canisters

Refrigerating plants

Foam rubber

Insulating materials

Reason for selection:

Political goal of phase-out in refrigerating plant before 2006.

Severe greenhouse effect.

Goals:

High priority is assigned to special action on these substances.

Restrictions on these substances are desired because of their severe greenhouse effect.

Classification:

Not yet on the List of Dangerous Substances /1/.

Present regulation:Restrictions on use:

/15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /59/ (Danish EPA Statutory Order on propellants and solvents in aerosol canisters)

Quality criteria/limit values:Working environment:

/113/ (Directorate of Labour Inspection Statutory Order on aerosols)

Miscellaneous regulations:

/109/ (Danish EPA guideline on industrial waste water)

Activities:

The Danish EPA sent out "Proposal for Regulating the Potent Industrial Greenhouse Gasses (HFCs, PFCs and SF₆)" in January, 2000.

Several projects have been launched with respect to substitution alternatives for greenhouse gases in selected products. Funding from the the Cleaner Products Support Programme, etc., Danish EPA

5.33 Isocyanates

5.33.1 Diphenylmethane-2,4'-diisocyanate, diphenylmethane-4,4'-diisocyanate and diphenylmethanediisocyanate, isomers and homologues

CAS No.:

1. 5873-54-1 (diphenylmethane-2,4'-diisocyanate)
2. 101-68-8 (diphenylmethane-4,4'-diisocyanate)
3. 9016-87-9 (diphenylmethanediisocyanate, isomers and homologues)

EINECS No.:

1. 227-534-9
2. 202-966-0
3. None

Product groups:

Hardeners, e.g., for adhesives and plastics

Fillers, including joint fillers (joint sealants)

Casting/moulding compounds/materials and joint fillers

Undercoats and binding agents

Adhesives and paints

Reason for selection:

Systematically selected because of their classifications. Primarily problematical due to the extent to which they are used in consumer products.

Classification:

Diphenylmethane-2,4'-diisocyanate (CAS No. 5873-54-1): harmful to the health (R 20), local irritant (R 36/37/38) and sensitising (R 42/43).

Diphenylmethane-4,4'-diisocyanate (CAS No. 101-68-8): harmful to the health (R 20), local irritant (R 36/37/38) and sensitising (R 42).

Diphenylmethanediisocyanate, isomers and homologues (CAS No. 9016-87-9): harmful to the health (R 20), local irritant (R 36/37/38) and sensitising (R 42).

Present regulation:**Restrictions on use:**

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /22/ (National Working Environment Authority instruction on limit values), /88/ (Directorate of Labour Inspection Statutory Order on volatile substances), /92/ (Directorate of Labour Inspection Statutory Order on epoxy resins and isocyanates)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

Diphenylmethane-2,4'-diisocyanate and *diphenylmethanediisocyanate, isomers and homologues* first listed on List of Undesirable Substances in 2000.

Diphenylmethane-4,4'-diisocyanate and *diphenylmethanediisocyanate, isomers and homologues* are undergoing danger assessment in the OECD /137/.

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.33.2 2,4-Diisocyanatotoluene and 2,6-diisocyanatotoluene

CAS No.

1. 584-84-9 (2,4-diisocyanatotoluene)
2. 91-08-7 (2,6-diisocyanatotoluene)

EINECS No.:

1. 209-544-5
2. 202-039-0

Product groups:

Paints and varnishes

Jointing and sealing compounds

Serigraphic dyes

Textile impregnation products

Adhesives

Reason for selection:

Systematically selected because of their classification. Primarily problematical due to the extent to which they are used in consumer products.

Classification:

2,4-Diisocyanatotoluene (CAS No. 584-84-9): carcinogenic (Carc3, R 40), highly toxic (R 26), local irritant (R 36/37/38), sensitising (R 42/43) and harmful to the environment (R 52/53).

2,6-Diisocyanatotoluene (CAS No. 91-08-7): carcinogenic (Carc3, R 40), highly toxic (R 26), local irritant (R 36/37/38), sensitising (R 42/43) and harmful to the environment (R 52/53).

Present regulation:**Restrictions on use:**

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /92/ (Directorate of Labour Inspection Statutory Order on epoxy resins and isocyanates)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.34 4,4'-Isopropylidenediphenol

CAS No.:

80-05-7

EINECS No.:

201-245-8

Product groups:

Paints and varnishes

Casting/moulding compounds/materials

Binding agents for casting/moulding

Hardeners for adhesives

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Local irritant (R 36/37/38) and sensitising (R 43).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water), /136/ (HELCOM)

Activities:

First listed on List of Undesirable Substances in 2000.

Included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Undergoing risk assessment in the EU. Reporting state: England. Additional regulatory initiatives are pending on this assessment.

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.35 Copper and copper compounds

CAS Nos.:

See examples from the group listed under "Classification".

Product groups:

Impregnated wood

Anti-fouling products

Pigments and dyes

Copper water pipes

Reason for selection:

Problematical substance in the waste cycle. Prevents, e.g., the reuse of such residuals as slag.

Goals:

High priority is assigned to special action on these substances.

Restrictions on these substances are desired because of the high concentrations found in residual products.

Classification:

Copper(I) chloride (CAS No. 7758-89-6): harmful to the health (R 22).

Copper cyanide (Index No. 006-007-00-5): highly toxic (R 26/27/28) and very toxic gas is liberated by contact with acids (R 32).

Copper(I)-O,O-diisopropylthiophosphate, etc. (EINECS No. 401-520-4): harmful to the environment (R 50/53).

Copper(II) methanesulphonate (CAS No. 54253-62-2): harmful to the health (R 22), local irritant (R 41) and harmful to the environment (R 50/53).

Copper naphthenate (CAS No. 1338-02-9): harmful to the health (R 22) and flammable (R 10).

Copper(I) oxide (CAS No. 1317-39-1): harmful to the health (R 22).

Copper sulphate (CAS No. 7758-98-7): harmful to the health (R 22) and local irritant (R 36/38).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /18/ (National Consumer Agency of Denmark Statutory Order on safety requirements for toys and products)

Quality criteria/limit values:

/30/ (Danish EPA Statutory Order on waters and requirements on discharges), /36/ (Danish EPA information on B values), /54/ (Danish EPA: quality requirements on soil and drinking water), /55/ (Danish EPA: soil-quality criteria), /78/ (Danish EPA Statutory Order on waste incineration), /79/ (Danish EPA Statutory Order on the use of slags and fly ash)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water), /134/ (Water Framework Directive), /136/ (HELCOM)

Activities:

Copper is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

The intention is to sort products containing these substances out of the waste stream with a view to special waste treatment.

Undergoing classification as environmental hazard in the EU.

5.36 Colophony (rosin free from turpentine oil)

CAS No.
8050-09-7

EINECS No.
232-475-7

Product groups:

Adhesives

Paints and varnishes

Soldering fluxes

Cosmetics

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Sensitising (R 43).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour

Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

Classification undergoing revision in the EU.

5.37 Mercury and mercury compounds

CAS Nos.:

See examples from the group listed under "Classification".

Product groups:

Batteries

Dental fillings

Fluorescent lamps

Thermometers

Reason for selection:

Problematical substances in the waste cycle.

High priority assigned to a special initiative in the EU, due to their harmful effects on the aquatic environment (batteries and thermometers)

Goals:

High priority has been assigned to a special initiative on these substances.

Restrictions on heavy metals are desired because of their harmful effects on the health and environment. No knowledge of substitution alternatives is available for certain areas of application, and work is needed to find technically and economically feasible alternatives in the future.

Restrictions on the use of these substances are also desired because of their impact on the health and environment, in connection with the use of residuals, such as slags, compost and sludge.

Classification:

Examples from this group

Mercury (CAS No. 7439-97-6): toxic (R 23), danger of cumulative effects after repeated use (R 33).

Mercury alkyls: danger of cumulative effects after repeated use (R 33) very toxic (R 26/27/28).

Calomel (CAS No. 10112-91-1): harmful to the health (R 22) and local irritant (R 36/37/38).

Mercury dichloride (CAS No. 7487-94-7): very toxic (R 28), toxic (R 48/24/25) and corrosive (R 34).

Mercury(II) fulminate (CAS No. 628-86-4) and mercury(II) oxidecyanide (CAS No. 1335-31-5): explosive (R 3), toxic (R 23/24/25) and danger of cumulative effects after repeated use (R 33).

Other organic mercury compounds: danger of cumulative effects after repeated use (R 33) and highly toxic (R 26/27/28).

Other inorganic mercury compounds, with the exception of mercury(II) sulphide: danger of cumulative effects after repeated use (R 33) and highly toxic (R 26/27/28).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /18/ (National Consumer Agency of Denmark Statutory Order on safety requirements for toys and products), /28/ (Danish EPA Statutory Order on cosmetic products), /31/ (Danish EPA Statutory Order, the "Risk" Statutory Order), /111/ (Danish EPA Statutory Order on amendment of the Act on chemical substances and products), /123/ (Danish EPA Statutory Order on prohibition of the sale and export of products containing Hg), /134/ (Water Framework Directive), /90/ (Danish EPA Statutory Order on batteries and accumulators that contain dangerous substances)

Quality criteria/limit values:

/3/ (Danish EPA Statutory Order on waste products intended for agricultural purposes), /22/ (National Working Environment Authority instruction on limit values), /30/ (Danish EPA Statutory Order on waters and requirements on discharges), /36/ (Danish EPA information on B values), /55/ (Danish EPA: soil-quality criteria), /78/ (Danish EPA Statutory Order on waste incineration), /79/ (Danish EPA Statutory Order on the use of slags and fly ash), /97/ (Danish EPA Statutory Order on Cd in industrial process water), /99/ (Danish EPA Statutory Order on limit values for mercury), /116/ (Danish EPA Statutory Order on sludge etc., for agriculture)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /66/ (Danish EPA guideline on the classification etc., of chemical substances and products), /109/ (Danish EPA guideline on industrial waste water), /114/ (EU Directive on dangerous chemicals), /136/ (HELCOM)

Activities:

Mercury is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Undergoing classification as an environmental hazard in the EU.

An EU Directive, which will limit the amounts, e.g., of mercury, in the air is on the way.

The intention is to sort products containing these substances out of the waste stream with a view to special waste treatment.

Work is in progress on initiatives in OSPAR for reducing discharges and losses of mercury, with a view to reducing its presence in the marine areas to concentrations of close to zero before 2020 /57/.

5.38 Low boiling point naphtha, which contains carcinogenic substances (benzene \geq 0.1% by volume)

CAS/EINECS Nos.:

1. *Naphtha (petroleum), hydrodesulphurised light, de-aromatised (CAS No. 92045-53-9, EINECS No. 295-434-2)*
2. *Naphtha (petroleum), hydrodesulphurised heavy (CAS No. 64742-82-1, EINECS No. 265-185-4)*
3. *Naphtha (petroleum), hydrotreated light (CAS No. 64742-49-0, EINECS No. 265-151-9)*
4. *Naphtha (petroleum), hydrotreated heavy (CAS No. 64742-48-9, EINECS No. 265-150-3)*
5. *Naphtha (petroleum), hydrotreated heavy (CAS No. 64741-65-7, EINECS No. 265-067-2)*
6. *Solvent naphtha (petroleum), light aromatic (CAS No. 64742-95-6, EINECS No. 265-199-0)*

Product groups:

Paints and varnishes

Undercoats

Serigraphic dyes

Surface-treatment products

Reason for selection:

Systematically selected because of their classifications and uses as solvents in products.

Classification:

Carcinogenic (Carc2; R 45) and harmful to the health (R 65). Only those that contain carcinogenic substances (benzene \geq 0.1% by volume)

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.), /25/ (EU Directive on restriction of the marketing and use of certain dangerous products)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values), /36/ (Danish EPA information on B values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

The Danish EPA's Chemical Inspection Service will investigate the use of these substances in consumer products during 2001-2002.

5.39 Maleic anhydride

CAS No.:

108-31-6

EINECS No.:

203-571-6

Synonym:

2,5-furandione

Product groups:

Filler compounds

Paints and varnishes

Binding agents

Fillers

Wax and other polishes for flooring

Undercoats

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Harmful to the health (R 22), corrosive (R 34) and sensitising (R 42/43).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /67/ (Danish EPA guideline on the restriction of air pollution by enterprises), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.40 Mercaptobenzothiazole (MBT)

CAS No.:

149-30-4

EINECS No.:

201-297-1

Synonym:

Benzothiazole-2-thiol

Product groups:

Natural rubber, e.g., dummies and gloves

Reason for selection:

The use of this substance in Denmark is considered to arouse concern. Primarily problematical due to the extent to which it is used in consumer products.

Goals:

High priority has been assigned to a special initiative.

Restrictions on the use of this substance is desired because of its impact on the health. Prohibited or restricted use in natural-rubber dummies is under consideration.

Classification:

Sensitising (R 43) and harmful to the environment (R 50/53).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

A project has been launched to map alternatives to MBT in natural-rubber dummies.

5.41 Mesitylene

CAS No.:

108-67-8

EINECS No.:

203-604-4

Synonym:

1,3,5-Trimethyl benzene

Product groups:

Paints and varnishes

Undercoats

thinners (for paints, varnishes, adhesives, etc.)

Solvents

Reason for selection:

Systematically selected because of its classification.

Classification:

Flammable (R 10), local irritant (R 37) and harmful to the environment (R 51/53).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /122/ (EU Directive on the protection of employees)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.42 Methenamine

CAS No.:

100-97-0

EINECS No.:

202-905-8

Synonym:

Hexamethylenetetramine

Product groups:

Binding agents

Cosmetics

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Highly flammable (R 11) and sensitising (R 42/43).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.), /28/ (Danish EPA Statutory Order on cosmetic products)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

Undergoing risk assessment in the EU. Reporting state: Germany. Additional regulatory initiatives are pending on this assessment.

5.43 (1-Methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)]diacrylate

CAS No.:
42978-66-5

EINECS No.:
256-032-2

Synonym:
Tripropylene glycoldiacrylate

Product groups:
Paints and varnishes

Printing inks

Reason for selection:
Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:
Local irritant (R 36/37/38), sensitising (R 43) and harmful to the environment (R 51/53).

Present regulation:
Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.44 Methylmethacrylate

CAS No.:

80-62-6

EINECS No.:

201-297-1

Synonym:

2-Propenoic acid, 2-methyl-, methylester

Product groups:

Paints and varnishes

Undercoats

Binding agents

Adhesives

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Sensitising (R 43), local irritant (R 36/37/38) and highly flammable (R 11).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values), /36/ (Danish EPA information on B values)

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /88/ (Directorate of Labour Inspection Statutory Order on volatile substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /91/ (EU Regulation on List I), /109/ (Danish EPA guideline on industrial waste water), /125/ (Danish EPA guideline on air pollution)

Activities:

Undergoing risk assessment in the EU. Reporting state: Germany. Additional regulatory initiatives are pending on this assessment.

5.45 Musk xylenes

CAS No.:

This group contains several substances, with different CAS Nos.

Synonym:

Nitroaromatic odorants

Product groups:

Cleaning products

Cosmetics

Reason for selection:

High priority in the marine environment.

Goals:

High priority has been assigned to a special initiative.

Restrictions on these substances are desired because their diffuse distribution in the marine environment.

Classification:

Not yet on the List of Dangerous Substances /1/.

Present regulation:

Restrictions on use:

/16/ (Danish EPA Statutory Order on classification, etc.), /28/ (Danish EPA Statutory Order on cosmetic products)

Quality criteria/limit values:

Working environment:

Miscellaneous regulations:

/6/ (European Commission directive on high-priority substances), /93/ (EU regulation on List III), /109/ (Danish EPA guideline on industrial waste water), /136/ (HELCOM)

Activities:

These substances are included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Undergoing assessment under the directive on cosmetic products.

Musk xylenes *musk xylene* (CAS No. 81-15-2) and *musk ketone* (CAS No. 81-14-1) are undergoing risk assessment in the EU. Reporting state: Holland. Additional regulatory initiatives are pending on this assessment.

Work is in progress on initiatives in OSPAR for reducing discharges and losses of musk xylenes, with a view to reducing their presence in the marine areas to concentrations of close to zero before 2020 /57/.

5.46 Methyl *tertiary*-butylether (MTBE)

CAS No.:

1634-04-4

EINECS No.:

216-653-1

Product groups:

Additives to certain fuels.

Reason for selection:

This substance only degrades with difficulty and is considered problematical for the ground water.

Goals:

High priority has been assigned to a special initiative.

Classification:

Not yet on the List of Dangerous Substances /1/.

Present regulation:

Restrictions on use:

/16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values)

Working environment:

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances)

Activities:

First listed on List of Undesirable Substances in 2000.

Included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Undergoing risk assessment in the EU. Reporting state: Finland. Additional regulatory initiatives are pending on this assessment.

Danish EPA Environmental Project No. 511, "Toxicological evaluation and limit values for methyl tertiary-butyl ether (MTBR), formaldehyde, glutaraldehyde and furfural" was published at the beginning of 2000.

5.47 Sodium and calcium hypochlorite

CAS Nos.:

1. 7681-52-9 (Sodium hypochlorite)
2. 7778-54-3 (Calcium hypochlorite)

EINECS Nos.:

1. 231-668-3
2. 231-908-7

Product groups:

Disinfectants

Cleaning products

Reason for selection:

Contributes to the formation of organo-chlorine compounds, which are problematical in the aquatic environment.

Risk of the liberation of chlorine gases by contact with acids (when mixed with other cleaning products).

Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Sodium hypochlorite (CAS No. 7681-52-9): liberates toxic gas by contact with acids (R 31) and corrosive (R 34).

Calcium hypochlorite (CAS No. 7778-54-3): oxidising (R 8), harmful to the health (R 22), toxic gas is liberated by contact with acids (R 31), corrosive (R 34) and harmful to the environment (R 50).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

Sodium hypochlorite is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Sodium hypochlorite (CAS No. 7681-52-9) is undergoing risk assessment in the EU. Reporting state: Italy. Additional regulatory initiatives are pending on this assessment.

An information campaign aimed at the consumer will be launched during 2000.

5.48 Nickel in certain applications and nickel compounds

CAS Nos.:

See examples from the group listed under "Classification".

Product groups:

Batteries, accumulators and catalysers

Jewellery, buckles, spectacles, etc.

Pigments

Tyres

Certain nickel-plated products

Reason for selection:

Problematical substances in the waste cycle. Some of these substances have also been systematically selected because of their classifications.

Goals:

High priority is assigned to special action on these substances.

Restrictions on these substances are desired because their harmful effects on the health.

Restrictions on these substances are desired because of the concentrations found, and because of their impact on the health and environment, in connection with the use of residuals, such as slags, compost and sludge.

Classification:

Examples from this group:

Nickel (CAS No. 7440-02-0): carcinogenic (Carc3; R 40) and sensitising (R 43).

Nickel monoxide (CAS No. 1313-99-1), *nickel dioxide* (CAS No. 12035-36-8), *nickel sulphide*, *dinickel trioxide* (CAS No. 1314-06-3), *trinickel disulphide* (CAS No. 12035-72-2): carcinogenic (Carc1; R 49) and sensitising (R 43).

Nickel sulphate (EINECS No. 232-104-9): carcinogenic (Carc3; R 40), harmful to the health (R 22), sensitising (R 42/43) and harmful to the environment (R 50/53) .

Nickel carbonate (CAS No. 3333-67-3): carcinogenic (Carc3; R 40), harmful to the health (R 22) and sensitising (R 43).

Nickel dihydroxide (CAS No. 12054-48-7): carcinogenic (Carc3; R 40), harmful to the health (R 20/22) and sensitising (R 43).

Nickel carbonyl (CAS No. 13463-39-3): toxic to reproduction (Rep2; R 61), carcinogenic (Carc3; R 40) very toxic (R 26) and highly flammable (R 11).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /60/ (EU Directive on the risk of major incidents involving dangerous substances), /117/ (Danish EPA Statutory Order on prohibition of products containing Ni), /134/ (Water Framework Directive)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values), /67/ (Danish EPA guideline on the restriction of air pollution by enterprises), /95/ (Danish EPA Statutory Order on Cd in fertiliser)

Working environment:

/12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /31/ (Danish EPA Statutory Order, the "Risk" Statutory Order), /62/ (Danish EPA Statutory Order on waste), /101/ (Danish EPA Statutory Order on sealed Ni-Cd batteries), /109/ (Danish EPA guideline on industrial waste water), /136/ (HELCOM)

Activities:

Nickel is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

The EU directive (*94/27/EEC*), on the restriction of nickel in certain applications in which it can come into direct contact with the skin for long periods, has been adopted. New Statutory Orders on the prohibition, importing and sale of certain products containing nickel have been published and enter into force on 20 July 2000. The new regulations represent a tightening of the present Danish regulations.

Nickel (CAS No. 7440-02-0), nickel sulphate (CAS No. 7786-81-4), nickel carbonate (CAS No. 3333-67-3), nickel dinitrate (CAS No. 13138-45-9) and nickel dichloride (CAS No. 7718-54-9) are undergoing risk assessment in the EU. Reporting state: Denmark. Additional regulatory initiatives are pending on this assessment.

An EU Directive is on the way, which will limit the amounts, e.g., of nickel, in the air.

The intention is to sort products containing these substances out of the waste stream with a view to special waste treatment.

5.49 Organo-tin compounds

CAS Nos.:

See examples from the group listed under "Classification".

Product groups:

PVC

Anti-fouling products

Reason for selection:

High priority in the marine environment.

Goals:

High priority is assigned to special action on these substances.

Restrictions on these substances are desired because of the concentrations found, and because of their impact on the health and environment, in connection with the use of residuals, such as sludge.

Restrictions on these substances are desired because of their harmful effects on the health and/or the environment. No knowledge of substitution alternatives is available for certain areas of application, and work is needed to find technically and economically feasible alternatives in the future.

Classification:

Examples from this group:

Bis(tris(2-methyl-2-phenylpropyl)tin) oxide (CAS No. 13356-08-6): harmful to the health (R 21) and local irritant (R 36/38).

Tin(II) methane sulphonate (CAS No. 53408-94-9): sensitising (R 43), harmful to the health (R 22) and corrosive (R 34).

Tributyltin compounds: toxic (R25 - R48/23/25), harmful to the health (R 21) and local irritant (R 36/38).

Tricyclohexyltin hydroxide (CAS No. 13121-70-5): harmful to the health (R 20/21/22).

Tricyclohexyltin compounds: harmful to the health (R 20/21/22).

Triethyltin compounds: very toxic (R 26/27/28).

Trihexyltin compounds: harmful to the health (R 20/21/22).

Trimethyltin compounds: very toxic (R 26/27/28).

Trioctyltin compounds: Local irritant (R 36/37/38).

Triphenyltin compounds: harmful to the health (R 20/21/22).

Triphenyltin acetate (CAS No. 900-95-8): very toxic (R 26), toxic (R 24/25), local irritant (R 36/38), sensitising (R 43) and harmful to the environment (R 50/53).

Triphenyltin compounds, miscellaneous: toxic (R 23/24/25).

Tripropyltin compounds, miscellaneous: toxic (R 23/24/25).

Present regulation:Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /21/ (Danish EPA Statutory Order on restricting the sale and use of certain chemical substances, 1991), /66/ (Danish EPA guideline on the classification etc., of chemical substances and products), /118/ (Danish EPA Statutory Order on pesticides), /134/ (Water Framework Directive)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values), /30/ (Danish EPA Statutory Order on waters and requirements on discharges), /36/ (Danish EPA information on B values), /102/ (Danish EPA guideline on surface treatment of ships)

Working environment:

/12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

Organic tin is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Prohibition or restrictions on the use of *bis(tributyltin) oxide* (CAS No. 56-35-9) are under consideration in the EU.

Denmark is participating in negotiations under the IMO (International Maritime Organisation), on a prohibition against TBT (tributyltin) in paints for ships. It appears that the application of paint containing TBT will be prohibited from 1 January 2003. In 2008, no TBT must be found on ships' hulls. The prohibition against TBT will encompass national and international shipping.

Work is in progress on initiatives in OSPAR for reducing discharges and losses of organic tin, with a view to reducing their presence in the marine areas to concentrations of close to zero before 2020 /57/.

5.50 Surfactants which do not degrade completely under anaerobic conditions

CAS No.:

Not relevant

Synonym:

Examples from the group:

LAS (linear alkylbenzene sulphonates), certain secondary alkane sulphonates and certain sulphosuccinates.

Product groups:

Detergents and cleaning products

Reason for selection:

Problematical substances in the waste cycle.

Cut-off value of LAS in a sludge matrix.

Classification:

Not yet on the List of Dangerous Substances /1/.

Present regulation:

Restrictions on use:

/11/ (voluntary agreement between the Danish EPA and the Association of Danish Cosmetics, Toiletries, Soap and Detergent Industries), /16/ (Danish EPA Statutory Order on classification, etc.), /98/ (Danish EPA Statutory Order on surfactants in detergents and cleaning products)

Quality criteria/limit values:

/3/ (Danish EPA Statutory Order on waste products intended for agricultural purposes), /34/ (Danish EPA Statutory Order on surface water used for drinking water), /54/ (Danish EPA: quality requirements on soil and drinking water), /55/ (Danish EPA: soil-quality criteria)

Working environment:

Miscellaneous regulations:

/119/ (Danish EPA Statutory Order on detergents and cleaning products), /109/ (Danish EPA guideline on industrial waste water)

Activities:

A campaign intended to reduce the use of LAS in detergents was implemented by the Danish EPA in collaboration with 120 local councils at the end of 1999.

LAS is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Mapping the occurrence and fate of selected substances (LAS) in all media of the environment within a geographically demarcated area. National Environmental Research Institute project on substances alien to the environment. Expected date of completion: 2000.

To be further assessed with a view to classification.

5.51 2,2,4,6,6-Pentamethyl heptane

CAS No.:

13475-82-6

EINECS No.:

236-757-0

Product groups:

Cleaning products

Anti-rust products

Polishes and car-care products

Varnish-care products

Releasing agents, including mould releasing agents for plastics

Solvents

Adhesives

Reason for selection:

Systematically selected on the basis of computerised assessment (QSAR), which show that this substance is harmful to the aquatic environment).

Classification:

Not yet on the List of Dangerous Substances /1/.

Present regulation:

Restrictions on use:

/16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

Miscellaneous regulations:

/109/ (Danish EPA guideline on industrial waste water)

Activities:

Included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

To be further assessed with a view to classification as an environmental hazard.

5.52 Perfluorinated hydrocarbons, e.g., CF₄, C₂F₆, C₃F₈

CAS/EINECS Nos.:

Examples from this group:

Carbon tetrafluoride (CF₄) (CAS No. 75-73-0, EINECS No. 200-896-5)

Perfluoroethane (C₂f₆) (CAS No. 76-16-4, EINECS No. 200-939-8)

Octafluoropropane (C₃f₈) (CAS No. 76-19-7, EINECS No. 200-941-9)

Product groups:

Coolants

Protective gases

Reason for selection:

Severe greenhouse effect.

Goals:

High priority is assigned to special action on these substances.

Restrictions on these substances are desired because of their severe greenhouse effect.

Classification:

Not yet on the List of Dangerous Substances /1/.

Present regulation:

Restrictions on use:

/16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values)

Working environment:

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

The Danish EPA sent out "Proposal for Regulating the Potent Industrial Greenhouse Gasses (HFCs, PFCs and SF₆)" in January, 2000.

Several projects have been launched with respect to substitution alternatives for greenhouse gases in selected products. Funding from the the Cleaner Products Support Programme, etc., Danish EPA

5.53 Phenol

CAS No.:

108-95-2

EINECS No.:

203-632-7

Product groups:

Paints and varnishes

Undercoats (primers)

Binding agents for casting/moulding, paints, adhesives, etc.

Adhesives

Jointing compounds

Reason for selection:

Systematically selected because of its classification.

Classification:

Toxic (R 24/25) and corrosive (R 34).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /28/ (Danish EPA Statutory Order on cosmetic products)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values), /30/ (Danish EPA Statutory Order on waters and requirements on discharges), /34/ (Danish EPA Statutory Order on surface water used for drinking water), /36/ (Danish EPA information on B values), /54/ (Danish EPA: quality requirements on soil and drinking water)

Working environment:

/12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /88/ (Directorate of Labour Inspection Statutory Order on volatile substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /67/ (Danish EPA guideline on the restriction of air pollution by enterprises), /109/ (Danish EPA guideline on industrial waste water), /129/ (Danish EPA Statutory Order on sites contaminated by tar/asphalt), /130/ (Danish EPA guideline on sites contaminated by wood-impregnation activities)

Activities:

Phenol is included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Undergoing risk assessment in the EU. Reporting state: Germany. Additional regulatory initiatives are pending on this assessment.

Mapping its occurrence and fate in all media of the environment within a geographically demarcated area. National Environmental Research Institute project on substances alien to the environment. Expected date of completion: 2000.

5.54 Phenol, 4,4'-(1-methylethylidene)bis, polymer with 2,2-((1- methylethylidene)bis)

CAS No.:
25036-25-3

EINECS No.:
None

Product groups:
Paints and varnishes

Reason for selection:
Systematically selected on the basis of computerised assessment (QSAR), which show that this substance is harmful to the aquatic environment.

Classification:
Not yet on the List of Dangerous Substances /1/.

Present regulation:
Restrictions on use:

/16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

Miscellaneous regulations:

/109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

To be assessed with a view to classification as an environmental hazard.

5.55 Phenol, methyl-

CAS No.:

1319-77-3

EINECS No.:

215-293-2

Synonym:

Cresol, pure

Product groups:

Binding agents

Solvent-based adhesives

Paints and varnishes

Undercoats

Sealing compounds

Fuel additives

Anti-rust products

Fillers

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Toxic (R 24/25) and corrosive (R 34).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values)

Working environment:

/12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

The Danish EPA's Chemical Inspection Service will investigate the use of this substance in consumer products during 2001-2002.

5.56 Phthalates

CAS Nos.:

Examples from this group of substances

Di-(2-ethylhexyl) phthalate (CAS No. 117-81-7, EINECS No. 204-211-0)

Bis(2-methoxyethyl) phthalate (CAS No. 34006-76-3)

p-Dibutyl phthalate (CAS No. 1962-75-0, EINECS No. 217-803-9)

Butyl benzyl phthalate (CAS No. 85-68-7, EINECS No. 201-622-7)

Diisodecyl phthalate (CAS No. 26761-40-0, EINECS No.249-977-1)

Diisononyl phthalate (CAS No. 28553-12-0, EINECS No.249-079-5)

Dibutyl phthalate (CAS No. 84-74-2; EINECS No.201-557-4)

Product groups:

Soft PVC

Toys

Paints, varnishes and printing inks

Cosmetics

Adhesives and filler products

Reason for selection:

Political goal of reduced consumption and phase-out.

Problematical substances in the waste cycle, especially in sludge and compost.

Bis(2-methoxyethyl)phthalate (CAS No. 34006-76-3) has also been selected because of its classification.

Goals:

High priority is assigned to special action on these substances.

Restrictions on these substances are desired because of the concentrations found, and because of their impact on the health and environment, in connection with the use of residuals, such as slags, compost and sludge.

Restrictions on these substances are desired because of their harmful effects on the health.

Classification:

Bis(2-methoxyethyl) phthalate (CAS No. 34006-76-3): toxic to reproduction (Rep2; R 61 and Rep3; R 62).

The other phthalates are not on the List of Dangerous Substances /1/.

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.), /58/ (Danish EPA Statutory Order on the prohibition of phthalates in toys), /134/ (Water Framework Directive), /139/ (Ministry of Taxation Act on surcharges on PVC and phthalates)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values), /36/ (Danish EPA information on B values), /121/ (EU Directive on pollution from combustion engines)

Working environment:

/12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /136/ (HELCOM)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /67/ (Danish EPA guideline on the restriction of air pollution by enterprises), /109/ (Danish EPA guideline on industrial waste water), /120/ (Danish EPA Statutory Order on ships' stowage logs)

Activities:

The action plan for reducing the use of phthalates in soft plastics has been completed.

The Act on surcharges on PVC and phthalates in certain products will enter into force on 1 July 2000.

Several projects have been launched with respect to substitutes for phthalates in PVC and other products. Funding from the the Cleaner Products Support Programme, etc., (Danish EPA).

Mapping the occurrence and fate of selected substances (DBP, BBP, DEHP and DOP) in all media of the environment within a geographically demarcated area. National Environmental Research Institute project on substances alien to the environment. Expected date of completion: 2000.

A report on phthalates in paints, varnishes, printing inks and cosmetics is expected during the autumn of 2000.

A project concerned with alternatives has been launched and is expected to be completed at the end of 2000.

Butylbenzyl phthalate (CAS No. 85-68-7) and *di(2-ethylhexyl)phthalate* (DEHP) (CAS No. 117-81-7) are included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Dibutyl phthalate (CAS No. 1962-75-0) and *dioctyl phthalate* (CAS No. 117-81-7) are undergoing risk assessment (including an assessment of whether or not these substances should be classified) in the EU. Reporting state: Holland.

Diisodecyl phthalate (DIDP, CAS No. 26761-40-0) and *diisononyl phthalate* (DINP, CAS No. (14103-61-8 or 68515-48-0)) are undergoing risk assessment in the EU. Reporting state: France.

Diethylhexyl phthalate (CAS No. 1330-92-3) is undergoing risk assessment in the EU. Reporting state: Sweden.

Butylbenzyl phthalate (CAS No. 85-68-7) is undergoing risk assessment in the EU. Reporting state: Norway.

Work is in progress on initiatives in OSPAR for reducing discharges and losses of *dibutyl phthalate* and *diethylhexyl phthalate*, with a view to reducing their presence in the marine areas to concentrations of close to zero before 2020 /57/.

5.57 Phthalic anhydride

CAS No.:

85-44-9

EINECS No.:

201-607-5

Synonym:

1,3-Isobenzofurandion

Product groups:

Paints and varnishes

Binding agents

Fillers

Serigraphic dyes

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Harmful to the health (R 22), local irritant (R 37/38-41) and sensitising (R 42/43).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values)

Working environment:

/12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.58 Simple hydrocarbons (carbon hydrides)

5.58.1 n-Hexane

CAS No.:

110-54-3

EINECS No.:

203-777-6

Product groups:

Thinners (for paints, varnishes, adhesives and suchlike)

Cleaning products

Anti-rust products

Releasing agents, including mould releasing agents for plastics and other applications

Lubricants

Paints

Adhesives

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Highly flammable (R 11), toxic to reproduction (Rep3; R 62), harmful to the health (R 65-48/20) local irritant (R 38), harmful to the environment (R 51/53) and R 67.

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values)

Working environment:

/12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water), /125/ (Danish EPA guideline on air pollution)

Activities:

First listed on List of Undesirable Substances in 2000.

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.58.2 Heptane

CAS No.:

142-82-5

EINECS No.:

205-563-8

Synonym:

n-Heptane

Product groups:

Adhesives

Thinners (for paints, varnishes, adhesives and suchlike)

Cleaning products

Degreasing agents

Promoters

Solvents

Lubricants, including lubricating greases, lubricating oils, etc.

Releasing agents

Reason for selection:

Systematically selected because of its classification.

Classification:

Highly flammable (R 11), harmful to the health (R 65), local irritant (R 38), R 67, and harmful to the environment (R 50/53).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values)

Working environment:

/12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

An information campaign aimed at consumers will be launched during 2000. This campaign will give information on the necessary precautions when using such products as paints and varnishes.

5.59 Sulfamic acid

CAS No.:

5329-14-6

EINECS No.:

226-218-8

Product groups:

Cleaning products

Paint and varnish hardeners

Sanitation products for lavatories

surface-treatment products for metals (not paints, etc.)

Products for pH regulation (buffers)

Dyes

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Local irritant (R 36/38) and harmful to the environment (R 52/53).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

5.60 Sulphur hexafluoride

CAS No.:

2551-62-4

EINECS No.:

219-854-2

Product groups:

Insulating windows

Insulators

Protective gases

Reason for selection:

Severe greenhouse effect.

Goals:

High priority is assigned to special action on this substance.

Restrictions on this substance are desired because of its severe greenhouse effect.

Classification:

Not yet on the List of Dangerous Substances /1/.

Present regulation:

Restrictions on use:

/16/ (Danish EPA Statutory Order on classification, etc.), /59/ (Danish EPA Statutory Order on propellants and solvents in aerosol canisters)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values)

Working environment:

/88/ (Directorate of Labour Inspection Statutory Order on volatile substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

The Danish EPA sent out "Proposal for Regulating the Potent Industrial Greenhouse Gasses (HFCs, PFCs and SF₆)" in January, 2000.

5.61 Coal-tar products

CAS Nos.:

1. 8007-45-2 (coal tar)
2. 65996-93-2 (coal-tar pitch)
3. 61789-60-4 (pitch, which contains more than 50 ppm benzo(a)pyrene)

EINECS No.:

1. 232-361-7
2. 266-028-2
3. 263-072-4

Product groups:

Hardeners, e.g., for paints, varnishes and adhesives

Paints and varnishes

Binding agents, e.g., for paints, adhesives, etc.

Jointing compounds

Anti-rust products

Undercoats

Reason for selection:

Systematically selected because of their classifications.

Classification:

Carcinogenic (Carc2; R 45).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.), /28/ (Danish EPA Statutory Order on cosmetic products)

Quality criteria/limit values:

Working environment:

/5/ (Directorate of Labour Inspection instruction on suppliers' instructions for use of products), /12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /93/ (EU regulation on List III), /109/ (Danish EPA guideline on industrial waste water), /124/ (EU Directive on cosmetics)

Activities:

Coal-tar pitch (CAS No. 65996-93-2) is undergoing risk assessment in the EU. Reporting state: Holland. Additional regulatory initiatives are pending on this assessment.

5.62 1,2,4-Trichlorobenzene

CAS No.:
120-82-1

EINECS No.:
204-428-0

Product groups:
Degreasing agents

Paint and varnish strippers

Solvents

Reason for selection:

High priority is assigned to special action on this substance.

Restrictions on this substance are desired because of its diffuse distribution in the marine environment.

Goals:

High priority is assigned to special action on this substance.

Restrictions/phasing out of this substance are desired because of the concentrations found in groundwater.

Restrictions on this substance are desired because of its harmful properties with respect to the health.

Classification:

Not yet on the List of Dangerous Substances /1/. Undergoing risk assessment in Denmark. Denmark has recommended that this substance be classified as harmful to the health (R 22), local irritant (R 38) harmful to the environment (R 50/53).

Present regulation:Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.), /134/ (Water Framework Directive)

Quality criteria/limit values:

/22/ (National Working Environment Authority instruction on limit values), /30/ (Danish EPA Statutory Order on waters and requirements on discharges), /108/ (Danish EPA Statutory Order on List-1 substances)

Working environment:

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

Included in the national surveillance programme for the aquatic environment 1998-2003, also called NOVA 2003 /20/.

Undergoing risk assessment in the EU. Reporting state: Denmark. Denmark is planning the drafting of a risk-reduction strategy.

5.63 Tris(2-chloroethyl)phosphate

CAS No.:

115-96-8

EINECS No.:

204-118-5

Product groups:

Binding agents, e.g., for casting/moulding

Flame-retardant additives for textiles, plastics, etc.

Casting/moulding compounds/materials, including jointing compounds

Adhesives and varnishes

Surface-treatment products for metals (not paints, etc)

Non-galvanic metal plating (chromium plating, etc)

Solvents

Reason for selection:

Systematically selected because of its classification.

Goals:

High priority is assigned to special action on this substance.

Restrictions on this substance are desired because of its harmful effects on the health and environment.

Classification:

Carcinogenic (Carc3; R 40), harmful to the health (R 22) and harmful to the environment R 51/53.

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

First listed on List of Undesirable Substances in 2000.

This substance is undergoing risk assessment in the EU. Reporting state: Germany. Additional regulatory initiatives are pending on this assessment.

5.64 Distillates (petroleum), heavy paraffinic

CAS No.:

64741-51-1

EINECS No.:

265-052-0

Product groups:

Releasing agents

Mould oils and shuttering wax used in building industry

Anti-rust products

Coolants/lubricants

Metal surface-treatment products

Reason for selection:

Systematically selected because of its classification.

Classification:

Carcinogenic (Carc1; R 45).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /15/ (Danish EPA Statutory Order on restricting the sale and use of certain dangerous chemical substances, 1997), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

/36/ (Danish EPA information on B values)

Working environment:

/12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work), /17/ (Directorate of Labour Inspection Statutory Order on the prevention of cancer risks, 1997), /56/ (Ministry of Labour Statutory Order on the registration of carcinogenic substances)

Miscellaneous regulations:

/6/ (European Commission directive on high-priority substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

The Danish EPA's Chemical Inspection Service will investigate the use of this substance in consumer products during 2001-2002.

5.65 Selected substances in "perfume products"

CAS/EINECS Nos.:

List A:

Perfume ingredients which, according to the present body of knowledge, are documented allergens /140/.

1. *Amylcinamaldehyde (CAS No. 122-40-7, EINECS 204-541-5)*

2. *Amylcinnamyl alcohol (CAS No. 101-85-9, EINECS 202-982-8)*

3. *Benzylalcohol (CAS No. 100-51-6, EINECS 202-859-9)*

4. *Benzylsalicylate (CAS No. 118-58-1, EINECS 204-262-9)*

5. *Cinnamylalcohol (CAS No. 104-54-1, EINECS 203-212-3)*

6. *Cinnamal (CAS No. 104-55-2, EINECS 203-213-9)*

7. *Citral (CAS No. 5392-40-5, EINECS 226-394-6)*

8. *Coumarin (CAS No. 91-64-5, EINECS 202-086-7)*

9. *Eugenol (CAS No. 97-53-0, EINECS 202-589-1)*

10. Geraniol (CAS No. 106-24-1, EINECS 203-377-1)

11. Hydroxycitronellal (CAS No. 107-75-5, EINECS 203-518-7)

12. Hydroxymethylpentylcyclohexenecarboxaldehyde (CAS No. 31906-04-4, EINECS 250-863-4)

13. Isoeugenol (CAS No. 97-54-1, EINECS 202-590-7)

List B:

Perfume ingredients, which are under observation. There are firm suspicions that these substances can cause allergies /140/.

1. Anisylalcohol (CAS No. 105-13-5, EINECS 203-273-6)

2. Benzylbenzoate (CAS No. 120-51-4, EINECS 204-402-9)

3. Benzylcinnamate (CAS No. 103-41-3, EINECS 203-109-3)

4. Citronellol (CAS No. 106-22-9, EINECS 203-375-0)

5. d-Limonene (CAS No. 5989-27-5; EINECS 227-813-5)

6. *Farnesol* (CAS No. 4602-84-0, EINECS 225-004-1)

7. *Hexylcinnamaldehyde* (CAS No. 101-86-0, EINECS 202-983-3)

8. *Lilial* (CAS No. 80-54-6, EINECS 201-289-8)

9. *Linalool* (CAS No. 78-70-6, EINECS 201-134-4)

10. *Methyl heptyne carbonate* (CAS No. 111-12-6, EINECS 203-836-6)

11. *alpha-Isomethyl ionone* (CAS No. 127-51-5, EINECS 204-846-3)

Product groups:

Perfumes

Reason for selection:

Restrictions on certain perfume products are desired because of their ability to have harmful effects on the health.

d-Limonene (CAS No. 5989-27-5) has also been systematically selected, since it also finds other applications, e.g., as a solvent.

Goals:

High priority is assigned to special action on these substances.

Restrictions are desired on these substances because of their harmful effects on the health.

Classification:

The following substances are classified in the List of Dangerous Substances /1/.

Benzylalcohol (CAS No. 100-51-6): harmful to the health (R 20/22).

Benzylbenzoate (CAS No. 120-51-4): harmful to the health (R 22).

Citral (CAS No. 5392-40-5): local irritant (R 38) and sensitising (R 43).

d-Limonen (CAS No. 5989-27-5): flammable (R 10), local irritant (R 38), sensitising (R 43), and harmful to the environment (R 50/53).

Present regulation:**Restrictions on use:**

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.), /28/ (Danish EPA Statutory Order on cosmetic products)

Quality criteria/limit values:

/36/ (Danish EPA information on B values)

Working environment:

/12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

This group was first listed on List of Undesirable Substances in 2000.

Amendment of the regulations of the EU Directive on cosmetic products is under consideration, so that declarations shall also include information on substances used in perfumes.

5.66 Unspecified gas oil with carcinogenic properties

CAS Nos.:

1. 64741-91-9 (distillates (petroleum), solvent-refined medium heavy)
2. 64742-13-8 (distillates (petroleum), acid-treated medium heavy)

EINECS Nos.:

1. 265-093-4
2. 265-113-1

Product groups:

Solvents

Dessicants

Degreasing agents

Reason for selection:

Systematically selected because of their classifications. However, this only applies to fractions for which the entire course of refining is not known. Furthermore, in cases where it cannot be demonstrated the substance from which the distillates are manufactured is not a carcinogen.

Classification:

Carcinogenic (Carc2; R 45).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.), /25/ (EU Directive on restriction of the marketing and use of certain dangerous substances),

Quality criteria/limit values:

Working environment:

/14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

These two substances are first listed on List of Undesirable Substances in 2000.

5.67 Petroleum distillates, which contain carcinogenic substances (DMSO-extract $\geq 3\%$)

CAS/EINECS Nos.:

1. *Distillates (petroleum), hydrogen-treated light naphthene-* (CAS No. 64742-53-6, EINECS No. 265-156-6)
2. *Distillates (petroleum), hydrogen-treated heavy naphthene-* (CAS No. 64742-52-5, EINECS No. 265-155-0)
3. *Distillates (petroleum), solvent-dewaxed heavy paraffin-* (CAS No. 64742-65-0, EINECS No. 265-169-7)
4. *Distillates (petroleum), solvent-refined heavy paraffin-* (CAS No. 64741-88-4, EINECS No. 265-090-8)
5. *Distillates (petroleum), solvent-refined heavy naphthene-* (CAS No. 64741-96-4, EINECS No. 265-097-6)

Product groups:

Coolants and lubricants

Solvent products (for offset plates, etc.) (plate cleaners)

Anti-rust products

Releasing agents, including mould releasing agents for plastics and other applications

Surface-treatment products

Fuel additives

Reason for selection:

Systematically selected because of their classifications. Only the distillates that contain carcinogens (DMSO-extract $\geq 3\%$)

Classification:

Carcinogenic (Carc2; R 45)

Present regulation:

Restrictions on use: /1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.), /25/ (EU Directive on restriction of the marketing and use of certain dangerous products)

Quality criteria/limit values:Working environment:

/14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/7/ (EU Regulation on the risks of existing substances), /109/ (Danish EPA guideline on industrial waste water)

Activities:

The distillates with *CAS Nos. 64742-53-6 and 64741-96-4* are first listed on List of Undesirable Substances in 2000.

The Danish EPA's Chemical Inspection Service will investigate the use of these substances in consumer products during 2001-2002.

5.68 Zineb

CAS No.:

12122-67-7

EINECS No.:

235-180-1

Product groups:

Anti-fouling paints

Ships' undercoats

Reason for selection:

Systematically selected because of its classification. Primarily problematical due to the extent to which it is used in consumer products.

Classification:

Sensitising (R 43) and local irritant (R 37).

Present regulation:

Restrictions on use:

/1/ (List of Dangerous Substances), /16/ (Danish EPA Statutory Order on classification, etc.)

Quality criteria/limit values:

Working environment:

/12/ (Directorate of Labour Inspection Statutory Order on setting code numbers), /13/ (Directorate of Labour Inspection Statutory Order on working with code-numbered products), /14/ (Ministry of Labour on young people at work)

Miscellaneous regulations:

/109/ (Danish EPA guideline on industrial waste water)

Activities:

Use of this substance as a fungicide is being re-appraised in the EU.

Undergoing classification as an environmental hazard in the EU.

6 Risk phrases

- R 1 Explosive when dry.
- R 2 Risk of explosion by shock, friction, fire or other sources of ignition.
- R 3 Extreme risk of explosion by shock, friction, fire or other sources of ignition.
- R 4 Forms very sensitive explosive metallic compounds.
- R 5 Heating may cause an explosion.
- R 6 Explosive with or without contact with air.
- R 7 May cause fire.
- R 8 Contact with combustible material may cause fire.
- R 9 Explosive when mixed with combustible material.
- R 10 Flammable.
- R 11 Highly flammable.
- R 12 Extremely flammable.
- R 14 Reacts violently with water.
- R 15 Contact with water liberates extremely flammable gases.
- R 16 Explosive when mixed with oxidizing substances.
- R 17 Spontaneously flammable in air.
- R 18 In use, may form flammable/explosive vapour-air mixture.
- R 19 May form explosive peroxides.
- R 20 Harmful by inhalation.
- R 21 Harmful in contact with skin.
- R 22 Harmful if swallowed.
- R 23 Toxic by inhalation.
- R 24 Toxic in contact with skin.
- R 25 Toxic if swallowed.
- R 26 Very toxic by inhalation.
- R 27 Very toxic in contact with skin.
- R 28 Very toxic if swallowed.
- R 29 Contact with water liberates toxic gas.
- R 30 Can become highly flammable in use.
- R 31 Contact with acids liberates toxic gas.
- R 32 Contact with acids liberates very toxic gas.
- R 33 Danger of cumulative effects.
- R 34 Causes burns.
- R 35 Causes severe burns.
- R 36 Irritating to eyes.
- R 37 Irritating to respiratory system.
- R 38 Irritating to skin.
- R 39 Danger of very serious irreversible effects.
- R 40 Possible risks of irreversible effects.
- R 41 Risk of serious damage to eyes.
- R 42 May cause sensitization by inhalation.

- R 43 May cause sensitization by skin contact.
- R 44 Risk of explosion if heated under confinement.
- R 45 May cause cancer.
- R 46 May cause heritable genetic damage.
- R 48 Danger of serious damage to health by prolonged exposure.
- R 49 May cause cancer by inhalation.
- R 50 Very toxic to aquatic organisms.
- R 51 Toxic to aquatic organisms.
- R 52 Harmful to aquatic organisms.
- R 53 May cause long-term adverse effects in the aquatic environment.
- R 54 Toxic to flora.
- R 55 Toxic to fauna.
- R 56 Toxic to soil organisms.
- R 57 Toxic to bees.
- R 58 May cause long-term adverse effects in the environment.
- R 59 Dangerous for the ozone layer.
- R 60 May impair fertility.
- R 61 May cause harm to the unborn child.
- R 62 Possible risk of impaired fertility.
- R 63 Possible risk of harm to the unborn child.
- R 64 May cause harm to breastfed babies.
- R 65 Harmful: may cause lung damage if swallowed.
- R 66 Repeated exposure may cause skin dryness or cracking.
- R 67 Vapours may cause drowsiness and dizziness.

Combinations of risk phrases

Combined risk phrases must be constructed in the manner shown below.
Each combined phrase is to be considered as a single phrase.

- R 15/29 Contact with water liberates toxic, extremely flammable gas.
- R 20/21 Harmful by inhalation and in contact with skin.
- R 20/22 Harmful by inhalation and if swallowed.
- R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
- R 21/22 Harmful in contact with skin and if swallowed.
- R 23/24 Toxic by inhalation and in contact with skin.
- R 23/25 Toxic by inhalation and if swallowed.
- R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
- R 24/25 Toxic in contact with skin and if swallowed.
- R 26/27 Very toxic by inhalation and in contact with skin.
- R 14/15 Reacts violently with water, liberating extremely flammable gases.
- R 26/28 Very toxic by inhalation and if swallowed.

R 26/27/28	Very toxic by inhalation, in contact with skin and if swallowed.
R 27/28	Very toxic in contact with skin and if swallowed.
R 36/37	Irritating to eyes and respiratory system.
R 36/38	Irritating to eyes and skin.
R 36/37/38	Irritating to eyes, respiratory system and skin.
R 37/38	Irritating to respiratory system and skin.
R 39/23	Toxic: danger of very serious irreversible effects through inhalation.
R 39/24	Toxic: danger of very serious irreversible effects in contact with skin.
R 39/25	Toxic: danger of very serious irreversible effects if swallowed.
R 39/23/24	Toxic: danger of very serious irreversible effects through inhalation and in contact with skin.
R 39/23/25	Toxic: danger of very serious irreversible effects through inhalation and if swallowed.
R 39/24/25	Toxic: danger of very serious irreversible effects in contact with skin and if swallowed.
R 39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R 39/26	Very toxic: danger of very serious irreversible effects through inhalation.
R 39/27	Very toxic: danger of very serious irreversible effects in contact with skin.
R 39/28	Very toxic: danger of very serious irreversible effects if swallowed.
R 39/26/27	Very toxic: danger of very serious irreversible effects through inhalation and in contact with skin.
R 39/26/28	Very toxic: danger of very serious irreversible effects through inhalation and if swallowed.
R 39/27/28	Very toxic: danger of very serious irreversible effects in contact with skin and if swallowed.
R 39/26/27/28	Very toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R 40/20	Harmful: possible risk of irreversible effects through inhalation.
R 40/21	Harmful: possible risk of irreversible effects in contact with skin.
R 40/22	Harmful: possible risk of irreversible effects if swallowed.
R 40/20/21	Harmful: possible risk of irreversible effects through inhalation and in contact with skin.
R 40/20/22	Harmful: possible risk of irreversible effects through inhalation and if swallowed.
R 40/21/22	Harmful: possible risk of irreversible effects in contact with skin and if swallowed.

- R 40/20/21/22 Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.
- R 42/43 May cause sensitization by inhalation and skin contact.
- R 48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- R 48/21 Harmful: danger of serious damage to health by prolonged exposure in contact with skin.
- R 48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
- R 48/20/21 Harmful: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.
- R 48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
- R 48/21/22 Harmful: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed.
- R 48/20/21/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
- R 48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.
- R 48/24 Toxic: danger of serious damage to health by prolonged exposure in contact with skin.
- R 48/25 Toxic: danger of serious damage to health by prolonged exposure if swallowed.
- R 48/23/24 Toxic: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.
- R 48/23/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
- R 48/24/25 Toxic: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed.
- R 48/23/24/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
- R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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/1/

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/2/

Danish EPA: **List of Undesirable Substances**, Environmental Review No. 1, 1998.

/3/

Ministry of Environment and Energy: *Bekendtgørelse om anvendelse af affaldsprodukter til jordbrugs formål* ("Statutory Order on the **use of waste products for agricultural purposes**," Danish-language only). Statutory Order No. 49, of 20 January 2000.

/4/

Ministry of Environment: *Bekendtgørelse om vaske- og rengøringsmidler, Miljøministeriet, bekendtgørelse nr. 443 af 6. september 1983* ("Statutory Order on **detergents and cleaning products**," Danish-language only). Statutory Order No. 443, of 6 September 1983.

/5/

Directorate of Labour Inspection (now the National Working Environment Authority): *Leverandørbrugsanvisning og teknisk datablad for stoffer og materialer, AT-anvisning nr. 3.1.0.1, september 1997* ("**Supplier instructions and technical data sheets for substances and materials**," Danish-language only).

/6/

Commission Regulation (EC) No 2268/95 of 27 September 1995 concerning the **second list of priority substances** as foreseen under Council Regulation (EEC) No 793/93.

/7/

Council Regulation (EEC) No 793/93 of 23 March 1993 on the **evaluation and control of the risks of existing substances**.

/8/

Commission Decision of 17 February 1999 establishing the **ecological criteria for the award of the Community eco-label to textile products** (notified under document number C(1999) 339).

/9/

Commission Decision of 22 April 1996 establishing the **ecological criteria for the award of the Community eco-label to bed linen and T-shirts** (96/304/EC).

/10/

Commission Decision of 25 July 1995 establishing the **ecological criteria for the award of the Community eco-label to laundry detergents** (95/365/EC).

/11/

Frivillig aftale mellem Miljøstyrelsen og Brancheforeningen SPT om brugen af nonylphenoethoxylater i vaske- og rengøringsmidler af 21. december 1987 ("Voluntary agreement, of 21 December 1987, between the Danish EPA and the Association of Danish Cosmetics, Toiletries, Soap and Detergent Industries, on the **use of nonylphenoethoxylates in washing and cleaning products**," Danish-language only).

/12/

Directorate of Labour Inspection (now the National Working Environment Authority): Executive Order No. 301, of 13 May 1993, on the **determination of code numbers**, as amended by Executive Order No. 783, of 24 September 1993.

/13/

Directorate of Labour Inspection (now the National Working Environment Authority): Executive Order No. 302, of 13 May 1993, on **work with code-numbered products**.

/14/

Ministry of Labour: *Bekendtgørelse om unges arbejde, Arbejdsministeriet bekendtgørelse nr. 516 af 14. juni 1996* ("Statutory Order No. 516, of 14 June 1996, on **young people at work**," Danish-language only).

/15/

Miljø- og Energiministeriet: *Bekendtgørelse om begrænsning af salg og anvendelse af visse farlige kemiske stoffer og produkter til specielt angivne formål* ("Statutory Order on **restricting the sale and use of certain dangerous chemical substances and products to specific purposes**," Danish-language only). Danish EPA Statutory Order No. 1042, of 17 December 1997.

/16/

Ministry of Environment and Energy: Statutory Order No. 801 of 23 October 1997 on **classification, packaging, labelling, sale and storage of chemical substances and products**.

/17/

Directorate of Labour Inspection (now the National Working Environment Authority): *Bekendtgørelse om foranstaltninger til forebyggelse af kræftisikoen ved arbejde med stoffer og materialer, Arbejdstilsynets bekendtgørelse nr. 140 af 17. februar 1997* ("Statutory Order No. 140, of 17 February 1997, on **measures for the prevention of cancer risk when working with substances and materials**," Danish-language only).

/18/

National Consumer Agency of Denmark: Order of the National Consumer Agency of Denmark (Forbrugerstyrelsen) No. 329 of May 23 1993 on **Safety requirements for toys and products** which due to their outward appearance may be mistaken for food.

/19/

Ministry of Environment and Energy: *Bekendtgørelse om begrænsning af salg og anvendelse af visse farlige kemiske stoffer og produkter til specielt angivne formål* ("Statutory Order on **restricting the sale and use of certain dangerous chemical substances and products to specific purposes**," Danish-language only). Ministry of Environment and Energy Statutory Order No. 1004, of 14 December 1995.

/20/

Ministry of Environment and Energy. *Redegørelse nr 1, 2000. NOVA 2003* ("Report No. 1, 2000. NOVA 2003," Danish-language only).

/21/

Ministry of Environment: *Bekendtgørelse om begrænsning af salg og anvendelse af visse farlige kemiske stoffer og produkter til specielt an givne formål* ("Statutory Order on **restricting the sale and use of certain dangerous chemical substances and products to specific purposes**," Danish-language only). Ministry of the Environment Statutory Order No. 454, of 16 June 1991.

/22/

National Working Environment Authority (formerly the Directorate of Labour Inspection): Instruction No. 3.1.0.2, December 1999, on **exposure limit values for substances and materials**.

/23/

Directorate of Labour Inspection (now the National Working Environment Authority): *AT-meddelelse Nr. 3.01.7/Januar 1990 om trykimprægneret træ* ("Information Sheet No. 3.01.7/January 1990, on **pressure-impregnated wood**," Danish-language only).

/24/

Directorate of Labour Inspection (now the National Working Environment Authority): *Cirkulære 2/1990 om trykimprægneret træ* ("Circular 2/January 1990, on **pressure-impregnated wood**," Danish-language only).

/25/

Council Directive 76/769/EEC of 27 July 1976 on the **approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations.**

/26/

Act No. 476 of June 30, 1993, from the Ministry of the Environment on the **Protection of the Marine Environment.**

/27/

Ministry of Environment and Energy: *Bekendtgørelse om godkendelse m.v. af anlæg, der forbrænder farligt affald* ("Statutory Order on the **approval, etc., of plant that incinerates dangerous waste**," Danish-language only). Ministry of Environment and Energy Statutory Order No. 660 of 11 August 1997.

/28/

Ministry of Environment and Energy: Statutory Order No. 1171, of 10 October 1999, on **cosmetic products.**

/29/

Plant Department: *Bekendtgørelse nr. 56 af 24. januar 2000 om tilsyn med spildevandsslam m.m. til jordbrugsformål* ("Statutory Order No. 56, of 24 January 2000, on the **inspection of sewage sludge, etc., for agricultural purposes**," Danish-language only).

/30/

Ministry of Environment and Energy: *Bekendtgørelse om kvalitetskrav for vandområder og krav til udledning af visse farlige stoffer til vandløb, søer eller havet* ("Statutory Order on **quality requirements on waters and requirements on the discharging of certain dangerous substances to watercourses, lakes or the sea**," Danish-language only). Danish EPA Statutory Order No. 921 of 8 October 1996.

/31/

Ministry of Environment: *Bekendtgørelse om vurdering af sikkerheden i forbindelse med risikobetonede aktiviteter, der kan medføre et større uheld (Risikobekendtgørelsen)* ("Statutory Order on the **assessment of safety in conjunction with risky activities, which can entail major incidents**," Danish-language only) Danish EPA Statutory Order No. 520, of 5 July 1990.

/32/

Ministry of the Environment: *Bekendtgørelse om vandkvalitet og tilsyn med vandforsyningsanlæg* ("Statutory Order on **water quality and the inspection of waterworks**," Danish-language only). Danish EPA Statutory Order No. 515, of 29 August 1988.

/33/

Ministry of the Environment: *Bekendtgørelse om dumpning af optaget havbundsmateriale (klapning)* ("Statutory Order on the **dumping of material taken from the seabed**," Danish-language only). Danish EPA Statutory Order No. 975, of 19 December 1986.

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/35/

Danish EPA: *Cirkulære om retningslinier for politiets påtegning af giftrekvisitioner. Til samtlige politimestre og politidirektøren i København, Miljøstyrelsens cirkulære af 15. august 1986* ("Circular of 15 August 1986, on **guidelines for police endorsement of poisons requisitions**. To all Chief Constables and the Commissioner of the Copenhagen Police," Danish-language only).

/36/

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/37/

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/38/

Council Directive 96/82/EC of 9 December 1996 on the **control of major-accident hazards involving dangerous substances**.

/39/

Council Directive 96/62/EC of 27 September 1996 on **ambient air quality assessment and management**.

/40/

Council Directive 96/61/EC of 24 September 1996 concerning **integrated pollution prevention and control**.

/41/

Council Directive 94/67/EC of 16 December 1994 on the **incineration of hazardous waste**.

/42/

Council Directive 91/689/EEC of 12 December 1991 on **hazardous waste**.

/43/

Council Directive 80/68/EEC of 17 December 1979 on the **protection of groundwater against pollution caused by certain dangerous substances**.

/44/

Council Directive 79/869/EEC of 9 October 1979 concerning the **methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking water in the Member States**.

/45/

Directorate of Labour Inspection (now the National Working Environment Authority):
Bekendtgørelse nr. 520 af 1. november 1983 om F-gasbeholdere i køretøjer ("Statutory Order No. 520, of 1 November 1993, on **F-gas containers in vehicles**," Danish-language only).

/46/

Council Directive 76/464/EEC of 4 May 1976 on **pollution caused by certain dangerous substances discharged into the aquatic environment of the Community**.

/47/

Council Directive 76/160/EEC of 8 December 1975 concerning the **quality of bathing water**.

/48/

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/49/

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/51/

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/52/

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/54/

Ministry of Environment and Energy: *Toksikologiske kvalitetskriterier for jord og drikkevand, Projekt om jord og grundvand nr. 12, Miljøstyrelsen, 1995* ("**Toxicological quality criteria for soil and drinking water.** Project on soil and ground water No. 12, Danish EPA," Danish-language only).

/55/

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/56/

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/57/

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/58/

Ministry of Environment and Energy: Statutory order No. 151, of 15 March 1999, **banning phthalates in toys for children aged 0-3 and in certain childcare articles, etc.**

/59/

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/60/

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/61/

EU: Council Regulation 2455/92/EEC of 23 July 1992 concerning the **export and import of certain dangerous chemicals.**

/62/

Danish EPA: Statutory Order No. 299, of 30 April 1997, on **waste.**

/63/

Danish EPA: *Bekendtgørelse nr. 807 af 2. december 1986 om begrænsning af motorbenzins indhold af blyforbindelser og benzen* ("Statutory Order on **restricting the quantities of lead compounds and benzene in petrol**," Danish-language only). Statutory Order No. 807, of 2 December 1986.

/64/

Danish EPA: *Vejledning fra 1998 om Garverigrunde* ("**Guideline on tannery sites**, 1998," Danish-language only).

/65/

Danish EPA: *Vejledning nr. 2 fra 1997 om Boringskontrol på vandværker* ("Guideline No. 2 of 1997, on the **control of boring at waterworks**," Danish-language only).

/66/

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/67/

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/68/

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/69/

Arbejdsministeriet: *Bekendtgørelse nr. 867 af 13. oktober 1994 om Bekendtgørelse om arbejdets udførelse* ("Statutory Order No. 867, of 13 October 1994, on the Statutory Order on the **performance of work**," Danish-language only).

/70/

Ministry of Labour: *Bekendtgørelse nr. 562 16. december 1985 om arbejde med metallisk bly og dets ionforbindelser* ("Statutory Order No. 562, of 16 December 1985, on **working with metallic lead and its ionic compounds**," Danish-language only).

/71/

Directorate of Labour Inspection (now the National Working Environment Authority): Instruction No. 4.0.0.2, March 1998, **Working environment of pregnant employees and employees who are breast feeding**.

/72/

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/73/

EU: Council Directive 94/33/EEC on the **protection of young people at work.**

/74/

Council Directive 92/85/EEC of 19 October 1992 on the **introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding** (tenth individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC).

/75/

Council Directive 98/24/EC of 7 April 1998 on the **protection of the health and safety of workers from the risks related to chemical agents at work.**

/76/

Ministry of Environment and Energy: *Bekendtgørelse nr. 65 af 14. februar 1993 om forbud mod brug af blyhagl* ("Statutory Order No. 65, of 14 February 1993, on **prohibition of the use of lead shot,**" Danish-language only).

/77/

Ministry of Environment and Energy: *Bekendtgørelse nr. 227 af 8. april 1991 om ændring af bekendtgørelse om anvendelse af slam, spildevand og kompost m.v. til jordbrugsformål* ("Statutory Order No. 227, of 8 April 1991, on amendment of the Statutory Order on the **use of sludge, waste water, compost, etc., for agricultural purposes,**" Danish-language only).

/78/

Ministry of the Environment: *Bekendtgørelse nr. 10 af 4. januar 1991 om affaldsforbrænding* ("Statutory Order No. 10, of 4 January 1991, on the **incineration of waste,**" Danish-language only).

/79/

Ministry of the Environment: *Bekendtgørelse nr. 568 af 6. december 1983 om anvendelse af slagger og flyveaske* ("Statutory Order No. 568, of 6 December 1983, on the **use of slags and fly ash,**" Danish-language only).

/80/

Ministry of Environment and Energy: Statutory Order No. 91, of 22 February 1996, on the **collection of lead-acid accumulators and subsidy to collection and disposal for recycling.**

/81/

Ministry of Environment and Energy: Statutory Order No. 92, of 22 February 1996, on a **surcharge on lead-acid accumulators**.

/82/

Ministry of Environment and Energy: Statutory Order No. 298, of 30 April 1997, on **certain requirements on packaging**.

/83/

Ministry of Taxation, Central Customs and Tax Administration: *Vejledning af januar 1999 om Punktafgifter ved erhvervsmæssigt køb af varer i udlandet* ("Guideline of January 1999, on **excise duty on the commercial purchasing of goods**," Danish-language only).

/84/

Danish EPA: *Vejledning nr. 4/1990 om Pligter ved risikobetonede aktiviteter* ("Guideline No. 4/1990, on **obligations associated with risky activities**," Danish-language only).

/85/

Commission Directive 80/1335/EEC of 22 December 1980 on the **approximation of the laws of the Member States relating to methods of analysis necessary for checking the composition of cosmetic products**.

/86/

Council Directive 70/220/EEC of 20 March 1970 on the **approximation of the laws of the Member States relating to measures to be taken against air pollution by gases from positive-ignition engines of motor vehicles**.

/87/

Ministry of Labour: *Bekendtgørelse nr. 372 af 30. september 1965 om regler for arbejde på fartøj med tank for olie m. v.* ("Statutory Order No. 372, of 30 September 1965, on **regulations for working on ships fitted with oil tanks, etc.**," Danish-language only).

/88/

Directorate of Labour Inspection (now the National Working Environment Authority): *bekendtgørelse nr. 52 af 13. januar 1988 om materialer med indhold af flygtige stoffer herunder organiske opløsningsmidler* ("Statutory Order No. 52, of 13 January 1998, on **materials containing volatile substances, including organic solvents**," Danish-language only).

/89/

Council Directive 98/24/EC of 7 April 1998 on the **risks related to chemical agents at work.**

/90/

Ministry of Environment and Energy: Statutory Order No. 1044, of 16 December 1999, on **certain batteries and accumulators containing dangerous substances.**

/91/

Commission Regulation (EC) No 1179/94 of 25 May 1994 concerning the **first list of priority substances** as foreseen under Council Regulation (EEC) No 793/93.

/92/

Directorate of Labour Inspection (now the National Working Environment Authority): *Bekendtgørelse nr. 199 af 26. marts 1985 om epoxyharpikser og isocyanater m.v.* ("Statutory Order No. 199, of 26 March 1985, on **epoxy resins, isocyanates, etc.**," Danish-language only).

/93/

Commission Regulation (EC) No 143/97 of 27 January 1997 concerning the **third list of priority substances** as foreseen under Council Regulation (EEC) No 793/93.

/94/

Commission Regulation (EC) No 142/97 of 27 January 1997 concerning the **delivery of information about certain existing substances** as foreseen under Council Regulation (EEC) No 793/93.

/95/

Ministry of Environment and Energy: Statutory Order No. 223, of 5 April 1989, on the **content of cadmium in fertilisers containing phosphorus.**

/96/

Ministry of the Environment: Statutory Order No. 1199, of 23 December 1992, on **prohibition of the sale, import and manufacture of products containing cadmium.**

/97/

Ministry of the Environment: *Bekendtgørelse nr. 181 af 25. marts 1986 om grænseværdier for udledning af cadmium med processpildevand fra visse industrianlæg* ("Statutory Order No. 181, of 25 March 1986, on **limit values on discharges of cadmium with industrial process water from certain industrial plants,**" Danish-language only).

/98/

Ministry of the Environment: Statutory Order No. 443, of 6 September 1983. Amended by: Statutory Order No. 124, of 14 March 1986, and by Statutory Order No. 616, of 15 September 1986, *om overfladeaktive stoffers biologiske nedbrydelighed i vaske- og rengøringsmidler* ("on the **biodegradability of surfactants in detergents and cleaning products**," Danish-language only).

/99/

Ministry of the Environment: *Bekendtgørelse nr. 736 af 27. oktober 1986 om grænseværdier for kviksølv ved udledning af spildevand fra visse industrianlæg* ("Statutory Order No. 736, of 27 October 1986, on **limit values for mercury in discharges from certain industrial plants**," Danish-language only).

/100/

Arbejdsministeriet: *Bekendtgørelse nr. 183 af 15. maj 1975 om forbud mod anvendelse af visse cadmiumholdige loddemidler* ("Statutory Order No. 183, of 15 May 1975, on **prohibition of the use of certain soldering materials containing cadmium**," Danish-language only).

/101/

Ministry of the Environment: Statutory Order No. 93, of 22 February 1996, on the **collection of hermetically-sealed nickel-cadmium accumulators (closed nickel-cadmium batteries) and remuneration for collection and disposal for recycling**.

/102/

Danish EPA: *Vejledning nr. 3/1991 om Overfladebehandling af skibe* ("Guideline No. 3/1991, on the **antifouling treatment of ships**," Danish-language only).

/103/

Danish EPA: *Bekendtgørelse af 30/06-97 bilag 1.3 om Kvalitetskrav/miljømål* ("Statutory Order of 30 June 1997, Annex 1.3, on **quality requirements/environmental goals**," Danish-language only).

/104/

Danish EPA: *Vejledning nr. 1 af februar 1975 om begrænsning af forurening fra dambrug* ("Guideline No. 1, of February 1975, on the **restriction of pollution from fish farms**," Danish-language only).

/105/

EU: Commission Decision 96/337/EC of 8 May 1996 establishing the **ecological criteria for the award of the Community eco-label to double-ended light bulbs.**

/106/

EU: Commission Decision 95/533/EC of 1 December 1995 establishing the **ecological criteria for the award of the Community eco-label to single-ended light bulbs.**

/107/

Directorate of Labour Inspection (now the National Working Environment Authority): *Bekendtgørelse nr. 661 af 28. november 1983 om vandopløseligt chromat i cement* ("Statutory Order No. 661, of 28 November 1983, on **water-soluble chromates in cement,**" Danish-language only).

/108/

Ministry of Environment and Energy: *Bekendtgørelse nr. 75 af 30. januar 1992 om grænseværdier for udledning af visse farlige stoffer til vandløb, søer og havet (Liste 1 - stoffer)* ("Statutory Order No. 75, of 30 January 1992, on **limit values on discharges of certain dangerous substances to watercourses, lakes and the sea (List I - substances),**" Danish-language only).

/109/

Ministry of Environment and Energy: *Vejledning nr. 6 fra 1994 om tilslutning af Industrispildevand til kommunale spildevandsanlæg* ("Guideline No. 6, 1994, on the **connection of industrial waste water to municipal waste water treatment plants,**" Danish-language only).

/110/

Council Directive 86/280/EEC of 12 June 1986 on **limit values** and quality objectives for discharges of certain dangerous substances included in List I of the Annex to Directive 76/464/EEC.

/111/

Ministry of Environment and Energy: Consolidated Act No. 21, of 16 January 1996, on Chemical Substances and Products. Amended by Statutory Order No. 424, of 10 June 1997, on **amendment of the Act on Chemical Substances and Products.**

/112/

Ministry of Environment and Energy: *Bekendtgørelse nr. 75 af 30. januar 1992 om grænseværdier for udledning af visse farlige stoffer til vandløb, søer og havet (liste 1 - stoffer)* ("Statutory Order No. 75, of 30 January 1992, on **limit values on discharges of certain dangerous substances to watercourses, lakes and the sea (List I - substances),**" Danish-language only).

/113/

Directorate of Labour Inspection (now the National Working Environment Authority): *Bekendtgørelse nr. 844 af 30. september 1994 om aerosoler* ("Statutory Order No. 844, of 30 September 1994, on **aerosols**," Danish-language only).

/114/

EU: Regulation No. 2455/92 (EEC) concerning the **export and import of certain dangerous chemicals**.

/115/

Ministry of Environment and Energy: Statutory Order No. 520, of 9 June 1994, on **prohibition of the sale of mercury and products containing mercury**.

/116/

Ministry of Environment and Energy: *Bekendtgørelse nr. 227 af 8. april om ændring af bekendtgørelse om anvendelse af slam, spildevand og kompost m.v. til jordbrugsformål* ("Statutory Order No. 227, of 8 April, on **amendment of the Statutory Order on the use of sludge, waste water, compost, etc., for agricultural purposes**," Danish-language only).

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Ministry of Environment and Energy: Statutory Order No. 24, of 14 January 2000, on **prohibition of the import and sale of certain products containing nickel**.

/118/

Ministry of Environment and Energy: *Bekendtgørelse nr. 722 af 12. september 1997 om bekæmpelsesmidler* ("Statutory Order No. 722, of 12 September 1997, on **pesticides**," Danish-language only).

/119/

Ministry of Environment and Energy: *Bekendtgørelse nr. 726 af 13. november 1987 om oplysninger om vaske og rengøringsmidler* ("Statutory Order No. 726, of 13 November 1987, on **information on detergents and cleaning products**," Danish-language only).

/120/

Ministry of Environment and Energy: *Bekendtgørelse nr. 169 af 1. april 1987 om påtegning af lastjournal for skibe, der transporterer skadelige flydende stoffer i bulk* ("Statutory Order No. 169,

of 1 April 1987, on the **endorsement of stowage logs of ships that carry hazardous liquid chemicals in bulk,**" Danish-language only).

/121/

Directive 97/68/EC of the European Parliament and of the Council of 16 December 1997 on the **approximation of the laws of the Member States relating to measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery.**

/122/

EU: Commission Directive 96/94/EC of 18 December 1996 on establishing indicative limit values by implementing Council Directive 80/1107/EEC on the **protection of workers from the risks related to exposure to chemical, physical and biological agents at work.**

/123/

Ministry of Environment and Energy: Statutory Order No. 692, of 22 September 1998, on **prohibition of the sale and export of mercury and products containing mercury.**

/124/

EU: Commission Directive 97/45/EC of 14 July 1997 **adapting to technical progress Annexes II, III, VI and VII to Council Directive 76/768/EEC on the approximation of the laws of the Member States relating to cosmetic products.**

/125/

Ministry of Environment and Energy: Guideline No. 6, 1990. **Industrial Air Pollution Control Guidelines.**

/126/

EU: Commission Directive (91/442/EEC) of 23 July 1991 on **dangerous preparations, the packaging of which must be fitted with child-resistant fastenings.**

/127/

Council Directive 86/280/EEC of 12 June 1986 on **limit values and quality objectives for discharges of certain dangerous substances** included in List of the Annex to Directive 76/464/EEC.

/128/

Ministry of Environment and Energy: Statutory Order No. 289, of 22 June 1983. Amended by: *Bekendtgørelse nr. 616 af 15. september 1986 om begrænsning af formaldehyd i spånplader, krydsfinerplader og lignende plader, som anvendes i møbler, inventar og lignende* ("Statutory Order No. 616, of 15 September 1986, on the **restriction of formaldehyde in chipboard, plywood and suchlike used in furniture, fittings, etc.**," Danish-language only).

/129/

Ministry of Environment and Energy: *Vejledning om tjære/asfaltgrunde 1998* ("Guideline on **sites contaminated by tar/asphalt**, 1998," Danish-language only).

/130/

Ministry of Environment and Energy: *Vejledning om træimpregneringsgrunde, 1998* ("Guideline on **sites contaminated by wood-impregnation activities**," Danish-language only).

/131/

Ministry of Environment and Energy: *Bekendtgørelse nr. 665 af 4. juli 1996 om begrænsning af salg og anvendelse af creosot* ("Statutory Order No. 665, of 4 July 1996, on **restricting the sale and use of creosote**," Danish-language only).

/132/

Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 concerning the **approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations**.

/133/

EU: Commission Directive 91/322/EEC of 29 May 1991 on **establishing indicative limit values by implementing Council Directive 80/1107/EEC on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work**.

/134/

EU (Water Framework Directive): Common position (EC) No. ____ laid down by the Council on 2 October 1999, with a view to adopting European Parliament and Council Directive 1999/____/EC, on the **establishment of a framework for European water policy**.

/135/

Danish EPA: *Vejledning nr. 13 af 1998 om prøvetagning og analyse af jord* ("Guideline No. 13, 1998, on the **sampling and analysis of soil**," Danish-language only).

/136/

Helcom: List of potential substances of concern.

/137/

OECD: <http://www.oecd.org/ehs/sidstabl/index.htm>.

/138/

Ministry of Taxation: *Lovbekendtgørelse nr. 568 af 3. august 1998 om afgift af visse klorerede opløsningsmidler* ("Promulgation Order No. 568 of 3 August 1998 on **surcharges on certain chlorinated solvents**", Danish-language only).

/139/

Ministry of Taxation: Act No. 954, of 20 December 1999, on **taxes on polyvinylchloride and phthalates**.

/140/

The Scientific Committee on Cosmetic Products and Non-Food Products Intended for Consumers. Opinion concerning "Fragrance Allergy". December 1999. SCCNEP/0017/98 Final.