



Global Automotive Declarable Substance List (GADSL)

1. GADSL Objectives

Major objectives of automotive product development include continuous improvements in quality, safety, and the reduction of environmental impact throughout vehicle life cycle. As much as possible, these objectives should be achieved in an efficient, cost effective way to optimize consumer value. A large number of construction, operational and processing materials are used in the automotive manufacturing chain, and their selection and proper use can have significant impact on these objectives.

To meet these objectives, an ongoing dialogue and information flow within the global automotive supply chain, including automobile manufacturers, tier suppliers and material suppliers has been established, called the Global Automotive Stakeholder Group (GASG). Early information and dialogue up and down the supply chain will help facilitate compliance with current and future regulations, as well as take into account customer requirements to ensure sustainable products. Optimized handling of relevant information flow can help automobile manufacturers meet existing and projected reporting requirements in a consistent, understandable and efficient way.

The GASG organization consists of three regions, Americas, Europe/Africa/Middle East, and Asia/Pacific. Regional membership and participation is open to all stakeholders in the automotive supply chain. Each of the three regions nominates six members to sit on the governing body of the GASG, called the Steering Committee (SC). The SC meets annually or more at its prerogative to decide on the GADSL and to provide a transparent and open process for decision making.

The product of the GASG dialogue is the Global Automotive Declarable Substance List (GADSL). The GADSL covers declaration of certain information about substances relevant to parts and materials supplied by the supply chain to automobile manufacturers. The information is applicable to the use of these parts or materials in the production of a vehicle up to its usage and relevant to the vehicle's re-use or waste disposal.

Revision Date	Revision Comment
2007-01-17	Added clause regarding use of GADSL and clarification of what a reportable substance is. Update of the substance list according to agreed dossiers.
2008-01-18	Update of the substance list according to agreed dossiers. 2008 changes are highlighted in gray.
2008-09-01	Update of new Directive number to ELV Annex II and REACH

The intent of GADSL is to become the company specific list for declaration of parts composition within the automotive industry. It provides a definitive list of substances requiring declaration with the target to minimize individual requirements and ensure cost-effective management of declaration practice along the complex supply chain. The scope is to cover declarable substances in the flow of information relevant to parts and materials supplied throughout the automotive value chain, from production to the end of life phase. **The GADSL only covers substances that are expected to be present in a material or part that remains in the vehicle or part at point of sale.**

This approach is a voluntary industry initiative designed to ensure integrated, responsible and sustainable product development by automobile manufacturers and their supply chain. Its purpose is to minimize individual requirements and ensure cost-effective management of declaration practice along the large and complex global supply chain.

2. Application of the GADSL

The use of certain substances in vehicle parts may be a risk factor to human health and the environment. Information exchange along the vehicle supply chain helps manage those potential risks while also meeting customer requirements. The GADSL is used to enhance further dialogue and cooperation along the supply chain on the benefits and potential risks of certain substances or groups of substances in a specified use within vehicle parts/materials. Declaration of a substance does not mean, however, that the substance is prohibited from being used in vehicle parts or is to be de-selected from use. Any declaration process using the GADSL must respect the framework formulated in this preface.

Definitions

Substances	Chemical elements or chemical compounds as parts of materials or preparations
Preparations	Mixtures, composed of two or more substances
Materials	Chemical elements, chemical compounds or preparations thereof in finished state used to manufacture products/articles
Products/articles	Materials, which have been transformed during production to take a specific shape, surface or form, which has a greater influence on their function than their chemical composition does.
Parts	Single components made up of one or more homogenous material(s)

Criteria for Declarable Substances

The decision to list a substance on the GADSL is based on the following criteria:

- The substance should be expected to be present in a material or part in the vehicle. Either of the following conditions should apply:
 - The substance is regulated¹, or is projected to be regulated by a governmental agency or authority, or
 - It is demonstrated, by testing under OECD (Organization for Economic Cooperation & Development) guidelines for testing chemicals, conducted under Good Laboratory Practice (according to the OECD Principles on Good Laboratory Practice as revised in 1997), that the substance may be associated with a significant hazard to human health and/or the environment, and its presence in a material or part in a vehicle may create a significant risk to human health and/or the environment. Other scientifically valid methodology, based on the weight of evidence, may also be considered.
- A substance that causes a functional problem in vehicle design may be included if its presence in a vehicle part exceeds a level shown to be problematic by an international industry standard test².
- Reportable threshold levels will be based on the lowest level required by regulation or reasonably required by scientific evaluation.

Declarable Substance Classification

A reportable substance when present in a material or part in a vehicle will be shown on the GADSL with a classification of “P” or “D”, defined as follows:

Depending on its specific application, the same substance could be classified “P” in one end use, and “D” in another end use. When this is the case, both classifications for the substance will be shown on the GADSL with examples under the application column.

Declaration thresholds are defined by specific application of the substance in automotive parts. Any reportable substance below the declaration level does not have to be reported. These levels, unless otherwise indicated, are 0.1 g/100g (weight %) of non-separable, homogeneous materials, not on the total content in the component or assembly.

P = Prohibited

A substance designated “P” is either prohibited by regulation for use in certain applications or may not exceed regulated threshold limits.

¹ Due to potential effects on human health or the environment related to the Automotive industry

² Examples would be emissions, like odor testing or fogging. Currently there are numerous tests. Development of a quantitative industry standard test would reduce resource requirement and uncertainty for the supply chain.

D = Declarable

A substance designated "D" must be declared if it exceeds the defined threshold limits.

Reason Codes

Reason codes have been developed to explain why a substance has been included in the GADSL. Each declarable substance will be listed with one of the following reason codes to facilitate dialog within the supply chain:

LR = Legally Regulated

A substance legally regulated because its use in a vehicle part or material poses a significant risk to health and or the environment.

FA = For Assessment

A substance projected to be regulated by government agencies, upon decision by the GASG Steering Committee.

FI = For Information

A substance tracked for information purposes only, upon decision by the GASG Steering Committee. After discussion at the GASG Steering Committee and on **an exceptional basis**, an automobile manufacturer may include an individual substance or family of substances on the list under this (FI) reason code.

LR, FA and FI substances should not be construed to mean that the substance is prohibited from being used in a vehicle part, or is to be de-selected from use.

Substance families: If all members of a substance family are "D" or "P" the entry "All members" is listed after the family name. The entry "substance name, selected" means: This substance family refers to a limited list of single substances, which meet the criteria for being declarable or prohibited.

In certain cases substance families have the classification "D, except". This means that all substances within that family are declarable except those that are listed directly below labeled with "P" (e.g. Polybrominated Diphenyl Ethers).

CAS numbers for individual substances of a chemical family or group on the GADSL are listed in the Reference List which is part of GADSL. This list is available on the GADSL website. A 2006 priority of the GASG will be to review individual substances identified by CAS numbers on the reference list against GADSL criteria. The sole purpose of this reference list is to facilitate communication and declaration relating to the GADSL within the automotive supply chain to the automobile manufacturers.

3. GADSL Validity

The valid GADSL will be the current English version on <http://www.gadsl.org>. The content of the GADSL and its application does not relieve parties in the supply chain from obligation to comply with all existing relevant regional and national regulations in their business to business dealings.

4. Change Management Process

The GADSL will be updated and published annually in February according to improved knowledge in order to achieve a high standard of product safety and environment protection. At the latest 12 months after the publication date, any declaration should be performed according to this updated version.

Requested changes to the GADSL must be received by July 15 each year in order to be considered for the next version. For this input, comments and questions please contact one of the persons listed on the GADSL website.

5. Listed substances

The table on the following pages shows the substances that are covered by the GADSL. Any substance name that has "all members" after the name is to be considered as a group name covering several individual substances. Every attempt has been made to include a complete list of the members of the family. For a listing of those potentially individual relevant substances, please refer to the "Reference List" that can be found on the GADSL website.

Any substance where the substance name is followed by the word "selected" means that the list in the reference list will not be a complete listing but will show only those members that are to be reported, whether they are classified as "P" or "D."

6. Use of GADSL

GADSL was created by GASG. GADSL is intended to be a public document, freely available to third parties. GADSL may be duplicated or reproduced without the express permission of GASG. Companies and trade associations along the automotive value chain are free to communicate GADSL and any updates thereto. GASG and its members assume no liability whatsoever for GADSL, its content or any reliance on GADSL. Please note that this document is constantly evolving and is updated every year in February.

7. Abbreviations Used

- EU-D European Union Directive including amendment and adaptation directives:
EU-D 67/548/EEC: Directive on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labeling of preparations made from dangerous substances
EU-D 76/769/EEC: Directive 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
EU-D 2000/53/EC: Directive on end-of life vehicles
- EU-R EU Regulation including amendment and adaptation regulations:
EU-R 594/91/EEC: Council Regulation on substances that cause the depletion of the ozone layer
- US-EPA US-EPA Regulations on Class 1 and Class 2 Ozone Depleting Substances (ODS) Under section 602 of the *Clean Air Act*, published on January 19, 1996 in the U.S. Federal Register

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
1	Acetaldehyde	75-07-0	D	FI		EU-D 67/548/EEC	Emitted substance from polymer components	
2	Acetamide	60-35-5	D	FI		EU-D 67/548/EEC	Solvent additive, stabilizer for softening agents	
3	Acetonitrile	75-05-8	D	FI		EU-D 67/548/EEC	Component in high-capacity capacitors	
4	Acrylamide	79-06-1	D	FI		EU-D 67/548/EEC	Production of polyacrylamide (residual monomer)	
5	Acrylonitrile	107-13-1	D	FI		EU-D 67/548/EEC	Production of plastics, resins and rubbers e.g. ABS (residual monomer)	
6	Amines, carcinogenic, which are formed from Azo-dyes, selected		P	LR		EU-D 2002/61/EC	In dyes for textiles etc.	30 ppm
7	Amines, which can form carcinogenic Nitrosamines, selected		D	FI		Legally regulated according to German TRGS 615. Limit for all secondary Amines in volatile corrosion inhibitors, which can form carcinogenic Nitrosamines. Volatile corrosion inhibitors include papers, plastic films and oils.	Polyurethane foams, corrosion inhibitors, lubricants, rubber, colorants, herbicides	
8	4-Aminobiphenyl and its salts, all members		P	LR		EU-D 67/548/EEC EU-D 76/769/EEC		0,01%

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
9	Ammonium Perchlorate	7790-98-9	D	FI		Pyrotechnical compound	Pyrotechnical compound	
10	Aniline and its salts, all members		D	FI		EU-D 67/548/EEC	Pigments, sulfonamides, isocyanate - plastics	
11	Antimonytrioxide (Diantimonytrioxide)	1309-64-4	D	FI		EU-D 67/548/EEC	Flame retardant for plastics and rubber/latex, opacifier, friction material component	
12	Aromatic amines, selected		D	FI			Impurities in textile and leather paints, antioxidants in lubricants, rubber/latex, plastics	0,1%
13	Arsenic and its compounds, all members		D	FA		EU-D 67/548/EEC EU-D 76/769/EEC	Paints, smelted materials, biocides (including wood treatment), leather and textile finishes, glasses, pyrotechnic objects, metal finishes, electronics	0.01% (unless present in metals & alloys, then the declaration limit is 0,05%).
14	Asbestos Fibres, all members		P	LR		EU-D 76/769/EEC Definition of asbestos fiber for counting purpose by OSHA in 1992; Particle with a length >5 µm, a diameter of <3µm and aspect ratio (length:width)>3 : 1	Friction pads, gaskets, insulations	Any intentionally added content

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
15	Asbestos Minerals, all members		D	FI		Potential to form Asbestos fibres (see entry Asbestos fibers)	Friction pads, gaskets, insulations	Any intentionally added content
16	Barium compounds (organic or water soluble), selected		D	FI		EU-D 67/548/EEC	Colour pigments, stabilizers for PVC, lubricant additives	1%
17	Benzidine and its salts, all members		P	LR		EU-D 67/548/EEC EU-D 76/769/EEC & Canadian Toxic Substances Regulation 2005		0.01%, see details for Canada specific
18	Benzene	71-43-2	P	LR	All applications except those listed below	EU-D 76/769/EEC	Fuel constituent, raw material/contaminant in other chemicals	0,01%
18.1			D	FA	Additive in Fuels			0,1%
19	Beryllium and its compounds, all members		D	FI		EU-D 67/548/EEC	Electric contacts, relays and switches; electronics	
20	Biocidal coatings / biocidal additives, selected		D	FA		EU-D 2032/2002/EEC	Biocidal and biostatic treatments of polymers, textiles, and other components susceptible to microbiological attack (e.g. mobile air conditioning systems)	Any intentionally added content

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
21	Butadiene , 1,3-	106-99-0	D	FI		EU-D 67/548/EEC	Manufacturing of synthetic rubber for tires, as homopolymerisate (BR), as copolymerisate with Styrene (SBR) or Acrylonitrile (NR), starting product of Sulfolane, Chloroprene, Hexadamine, softeners, Tetrahydrophthalic acid anhydride, residual monomer in ABS	
22	Cadmium and its compounds, all members		P	LR	All applications except those listed below.	EU-D 2000/53/EEC EU-D 67/548/EEC EU-D 76/769/EEC	Surface protection of metals, stabilizers in polymers, pigments, in paints and plastics, electronics	0,01%, Any intentionally added content must be reported.
22.1			D	LR	Valid exemptions according to current ELV Annex II	EU-D 2008/689		
23	Chlorinated hydrocarbons, selected		D, except	FA		EU-D 67/548/EEC	Leather, paints, rubbers, adhesives	
	1,1,1 Trichloroethane	71-55-6	P	LR		EU-D 94/60		
	Tetrachloromethane (Tetrachlorocarbon)	56-23-5	P	LR		Montreal Protocol		
24	Chlorinated or Brominated Dioxins or Furans, all members		P	LR		ChemVerbotsV	Impurities in products	Content above 10 ppb

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
25	Chlorinated Paraffins, Short & Medium Chain Length (SCCP, MCCP), all members <i>Note that the use of specific CAS numbers for these substances differs throughout the world. Example CAS numbers are provided below; however, other CAS numbers may be used that are not specific to chain length. Therefore, please consult your MSDS and supplier to determine product-specific chain length.</i>		D/P				Flame retarding substances	1%
25.1	Short Chained Chlorinated paraffines (SCCP)		P	LR		EU-D 76/769/EEC		
25.2	Medium Chained Chlorinated paraffines (MCCP)		D	FI		UK DEFRA		
26	Chloroaniline	106-47-8	D	FI		EU-D 67/548/EEC	Hardener or cross linking agent for polymers and epoxy resins	
27	Bis(chloromethyl) ether (BCME)	542-88-1	P	LR		Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41. Published in Canada Gazette Part II, 2006-11-29 Vol. 140, No. 24	surface treatment of vulcanized rubber to increase adhesion, and in the manufacture of flame-retardant fabrics (ATSDR 1989).	Any intentionally added content

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
28	Chloromethyl methyl ether (CMME)	107-30-2	P	LR		Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41. Published in Canada Gazette Part II, 2006-11-29 Vol. 140, No. 25	surface treatment of vulcanized rubber to increase adhesion, and in the manufacture of flame-retardant fabrics (ATSDR 1989).	Any intentionally added content
29	Chloro-fluoro-carbons (CFC) and other Ozone depleting substances, all members		P	LR		EU-R 594/91/EEC, EPA ODP class 1	Coolants, propellants, cleaners, solvents, impregnating agents, blowing agents (PU production)	
30	Chromium(VI)-salts, all members		P	LR	All applications except those listed below.	EU-D 67/548/EEC EU-D 2000/53/EEC	Chromium pigments, chromated surfaces e.g. "Chromium Yellow", corrosion inhibitors, residues from dyeing and leather tanning.	0,1%, Any intentionally added content must be reported.
30.1			D	LR	Valid exemptions according to current ELV Annex II	EU-D 2008/689		
31	Cobalt and its compounds, all members		D	FI	Cobalt compounds and alloys, excluding cobalt in steels	EU-D 67/548/EEC	Hard metals, galvanic Zn-Co-plating, element in metals	

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
32	Colophony (Rosin), selected		D	FI		ACGIH Worldwide - Documentation of the TLVs and BEIs with other Worldwide Occupational Exposure Values; 2003.	Solders, adhesives, sealants	
33	Copper (metallic)	7440-50-8	D	FI	Dispersive applications (Brake and Friction linings)	Substance of Concern in dispersive friction material applications due to environmental impact potential	Alloys, Wiring, Friction linings, Electronics	
34	Cyclododecane, hexabromo-(HBCD)	25637-99-4	D	FI		EU risk assessment	Flame retardant	
35	Diamino-diphenyl-methane (4,4 -Diaminodiphenylmethane)	101-77-9	P	LR		EU-D 67/548/EEC	Preliminary and intermediate product of resins, adhesives, dyes, curing agent, accelerator.	
36	Dichloropropanol (1,3-Dichloro-2-propanol)	96-23-1	D	FI		EU-D 67/548/EEC	Solvent for anti-wrinkle agents and flame retardants in textiles, and in the production of epoxy resins	
37	Dimethylformamide (N,N-Dimethylformamide)	68-12-2	D	FI		1999/137/EC 91/689/EEC		
38	Diorganotin compounds, Selected		D	FI		EU-D 67/548/EEC	Stabilizer for polymers	

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
39	Dodecachloropentacyclo 1, 3, 4-Metheno-1H-cyclobuta(cd)pentalene, Mirex	2385-85-5	P	LR		Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41. Published in Canada Gazette Part II, 2006-11-29 Vol. 140, No. 24	Flame retardant in plastics, rubber, paint, paper, and electrical goods from 1959 to 1972. Mirex was sold as a flame retardant under the trade name Dechlorane, and chlordecone was also known as Kepone.	Any intentionally added content
40	Epichlorohydrin (1-Chloro-2,3-epoxy-propane)	106-89-8	D	FI		EU-D 67/548/EEC	Residual monomers in epoxy resins	
41	Ethanol, 2,2',2''-nitrilotris-(Triethanolamine)	102-71-6	D	FI		Norway Bestillingsnr. 463 (Risk of N-nitroso compound formation in coolant admixtures)	Coolant component	
42	Ethyl-/ Methyl-Glycols and their Acetates		D	FI		EU-D 67/548/EEC		

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
43	Fluorotemers, selected	Some substances may not have CAS#s	D	FA		EPA created a Voluntary Stewardship Program to reduce facility emissions and product content of PFOA, its higher homologues, and related chemicals including precursors (see column B) on a global basis by 95 percent no later than year-end 2010, and to work toward eliminating emissions and product content of these materials by year-end 2015. In addition the Canadian governmental agencies are also working on a similar program which is expected to take effect later in 2007	Present at low levels in telomeric products used as surface treatments for oil, soil, and water repellency and stain/dirt resistance for textile fabrics and carpet in the automotive sector.	
44	Formaldehyde	50-00-0	D	FI		EU-D 67/548/EEC	Residues and degradation products of plastics (aminoplasts, urea- and melamine resins, foam plastics, vulcanization accelerators, basis for synthetic tannins, biocides, adhesives, formed woods	<p>Any intentionally added content of formaldehyde</p> <p>Formaldehyde in any material, which is may be emitted under reasonable and foreseeable conditions, must be qualitatively indicated.</p> <p>Impurities of formaldehyde above 0,1 % has to be declared.</p>
45	Halons, all members		P	LR		EU-R 594/91/EEC	Fire extinguishers	

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
46	Hexachlorobenzene	118-74-1	D	FI		Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41. Published in Canada Gazette Part II, 2006-11-29 Vol. 140, No. 24	as a peptizing agent in the production of nitroso compounds and rubber for tires	≥ 10 ppb
46.1			P	LR				≥ 20 ppb
47	Hexachloro-1,3-butadiene (HCBd)	87-68-3	P	LR		Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41. Published in Canada Gazette Part II, 2006-11-29 Vol. 140, No. 24	Used mainly as an intermediate in the manufacture of rubber compounds . It is also used in the production of lubricants	Any intentionally added content
48	Hexachlorocyclohexane	58-89-9	D	FI		GefStoffV with Annex IV Nr. 5	Insecticide, substance in wood protecting compounds	
49	Hydrazine	302-01-2	D	FI		EU-D 67/548/EEC	Residual monomers in plastics, pigments and adhesives, antioxidants stabilizing of Amines, Phenols, in oils, greases, natural latex; blowing agents for foamed plastics	

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
50	Hydrobromofluorocarbons; HBFC's, all members		P	LR		Montreal Protocol; EU Regulation (EC Regulation 2037/2000); US EPA Class I ODS	Refrigerant	
51	Hydrochlorofluorocarbons; HCFC's, all members		P	FA	All applications except those listed below.	Montreal Protocol; EU Regulation (EC Regulation 2037/2000); US EPA Class II ODS	Refrigerant	
51.1			D	LR	servicing vehicles produced prior to December 2001 (where legally permitted)			
52	Hydrofluorocarbons; HFC's, all members		P	LR	All applications except those listed below	Kyoto Protocol	Refrigerant	
52.1			D	FA	All vehicle-related refrigerants			
53	Lead and its compounds, all members		P	LR	All applications except those listed below.	EU-D 2000/53/EEC EU-D 67/548/EEC	Lead as component in metals and alloys: e.g. bearing metals, steel, brass, aluminium processed in automated machines. Lead compounds, e.g. lead-containing stabilizers and pigments, corrosion inhibitors etc.	0,1%, Any intentionally added content must be reported.

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
53.1			D	LR	Valid exemptions according to current ELV Annex II	EU-D 2008/689		
54	Mercury and its compounds, all members		P		All applications except those listed below	EU-D 2000/53/EEC EU-D 67/548/EEC EU-D 76/769/EEC	Metallic mercury, and inorganic and organic mercury compounds used in high intensity discharge (HID) lamps, electric switches, luminescent material for instrument lighting, pyrotechnic initiators etc.	0,1%, Any intentionally added content must be reported.
54.1			D	LR	Valid exemptions according to current ELV Annex II	EU-D 2008/689		
55	Methanol	67-56-1	D	FI		Norway, Sweden (SFS 1985:840; SFS 1986:8), Denmark, Finland	Window Washer fluid applications	
56	2-Methoxyethanol	109-86-4	P	LR	Prohibited as impurity in Diethylene glycol methyl ether and in hard parts	Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41. Published in Canada Gazette Part II, 2006-11-29 Vol. 140, No. 24		Prohibited \geq 0.5% w/w in Diethylene glycol methyl ether. Any intentionally added content in hard parts
57	Methylacrylamidomethoxy-acetate	77402-03-0	D	FI		EU-D 67/548/EEC	production of polymers	

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
58	Mineral Fibers (Natural or Synthetic) except Continuous Filament Fibres, all members		D	FI		World Health Organization for definition of respirable fiber, and IARC monograph 81, 2002, for Man-Made vitreous fibers	Friction lining, screens, re-enforcements, insulation, cables	All fibers or fibrils 5 microns or less, in diameter, with a length:diameter ratio equal to or greater than 3:1
59	Monomethyldibromodiphenylmethane	99688-47-8	D	FI		EU Directive 76/769/EEC	Residues and decomposition products in production of polymers	
60	Monomethyldichlorodiphenylmethane	81161-70-8	D	FI		EU Directive 76/769/EEC	Residues and decomposition products in production of polymers	
61	Monomethyltetrachlorodiphenylmethane	76253-60-6	D	FI		EU Directive 76/769/EEC	Residues and decomposition products in manufacture of polymers	
62	Naphthalene	91-20-3	D	FI		EU Directive 67/548/EEC, carcinogen category 3. Limited evidence of a carcinogenic effect.	Polyester coating, PVC	
63	2-Naphthylamine and its salts, all members		P	LR		EU-D 67/548/EEC EU-D 76/769/EEC	Impurities in textile and leather paints, antioxidants in lubricants, rubber/latex, plastics	0,01%

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
64	Nickel and its compounds, all members		D	FI		EU-D 76/769/EEC	Welding electrodes, flame spraying, special materials, component in metals	
65	Nitrites, all members		D	FI		EU-D 67/548/EEC	Additives in engine coolants, vulcanising agents in rubber products, anticorrosion surface additive. Reaction product precursor for potentially carcinogenic N-nitroso- compounds	
66	4-Nitrobiphenyl and its salts, all members		P	LR		EU-D 67/548/EEC EU-D 76/769/EEC	Impurities in textile and leather paints, antioxidants in lubricants, rubber/latex, plastics	0,01%
67	Nitrocellulose	9004-70-0	D	FI		Pyrotechnical compound	Pyrotechnical compound	

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
68	N-Nitrosamines, selected		D/P	FA		legally regulated according to German TRGS 552 limit for workplace air (value 1 µg/m ³), TRGS 615 limit for volatile corrosion inhibitors and TRGS 905 classified as carcinogenic class 1. Legally regulated for corrosion inhibition in papers, plastic films and oils via limiting the corresponding sec. amines to 0,5 %.	Polyurethane foams and corrosion inhibitors	
69	Nonylphenol	25154-52-3	D	FI		EU Directives 67/548/EEC, 76/769/EEC, Toxic for reproduction-Category 3. Possible risk of harm to the unborn child. Possible risk of impaired fertility	Residues on metals, leather and textiles from their processing.	
70	Nonylphenol ethoxylates, all members		D	FI		EU-D 2003/53/EC	Surfactants, leather processing	

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
71	Pentachlorobenzene	608-93-5	P	LR		Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41. Published in Canada Gazette Part II, 2006-11-29 Vol. 140, No. 24	Flame retardant	Any intentionally added content
72	Pentachlorophenol (PCP) and its salts, all members		P	LR		EU-D 67/548/EEC EU-D 76/769/EEC	Wood preservative, salts used in leather treatment, stabilizer for latex	
73	Perchlorates, all members		D	FA		California Assembly Bill No. 826 - Perchlorate Contamination Prevention Act; implemented July 1, 2006. http://www.dtsc.ca.gov/HazardousWaste/Perchlorate/	Pyrotechnical compound	
74	Perfluorooctane sulfonates C₈F₁₇SO₂X (X = OH, Metal salt, halide, amide, and other derivatives including polymers) (*)		P	LR		76/769/EEC 2006/122EEC (Prohibited from July 1st 2008)	Surface coatings, Surfactants, Ingredient in the textile protective treatment. May not be placed on the market or used as a substance or constituent of preparations or in products or parts.	

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
75	PFOA and its salts, Perfluorooctanoic acids C ₈ F ₁₅ O ₂ X (X = H, NH ₄ , and Metal salts), all members		D	FA		<p>In January 2006, the EPA created a Voluntary Stewardship Program to reduce facility emissions and product content of PFOA, its higher homologues, and related chemicals including precursors on a global basis by 95 percent no later than year-end 2010, and to work toward eliminating emissions and product content of these materials by 2015. In addition the Canadian governmental agencies are also working on a similar program which is expected to take effect later in 2007. Norway has recently issued a regulation for PFOA in consumer products and several US states (New Jersey, Minnesota) have issued drinking water guidelines for PFOA. USEPA has also established drinking water limits in the Parkersburg, WVA vicinity. The EU has issued a directive on PFOS and has PFOA under review.</p>	<p>Fluoropolymers are used to make automotive components, including fuel hoses, gaskets, wire insulations, bearings. PFOA is used as a polymerization aid and it is not expected to be present at greater than trace levels in the components made from fluoropolymers</p>	<p>0.1% by mass in components made from fluoropolymers</p>

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
76	Phenol	108-95-2	D	FI		EU-D 67/548/EEC	Residual monomer in phenolic resins, epoxy resins, anti-oxidant in phenol derivatives, decomposition product in polymeric materials, wooden materials and textiles	
77	Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)-	3846-71-7	P	LR		Japan (Chemical Substances control Law)	UV Stabilizer in plastics for trim parts, etc.	
78	Phenol, 2,4,6-tris(1,1-dimethylethyl)-	732-26-3	D	FI		Japan (Chemical Substances control Law)	Petrochemical products	
79	Phenylendiamines and its salts, all members		D	FI		EU-D 67/548/EEC EU-D 76/769/EEC Japan (Chemical Substances control Law)	Dyes, chemical intermediate, Petrochemical additive	
80	Phthalates, selected		D	FA		EU-D 76/769/EEC	Plasticiser	
81	Polyamine Curing Agents, selected		D	FI		Not currently regulated but releasable hexamines are relevant to vehicle interior air quality		
82	Polybrominated biphenyls (PBB), all members		P	LR		EU-D 76/769/EEC		0,001% D or P depends on individual substance

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
83	Polybrominated diphenyl ethers (PBDE), all members		D, except	FI		EU-D 2003/11/EC	Flame Retardant	
	Octabromodiphenyl ether ('Octa')	32536-52-0	P	LR				
	Pentabromodiphenyl ether ('Penta')	32534-81-9	P	LR				
84	Polybrominated Terphenyls (PBT), all members		D	FI			Flame retardants in plastics and textiles.	
85	Polychlorinated Biphenyls (PCB), all members		P	LR		EU-D 76/769/EEC	Insulation fluid in electrical systems, switch boards transformers and condensers, in wood and paper impregnation, as a softening agent	0.005%
86	Polychlorinated Naphthalenes, all members		D	FI		Japan (Chemical Substances control Law)	Petrochemical additive	
87	Polychlorinated Terphenyls (PCT), all members		P	LR		ChemVerbotsV	Insulation fluid in electrical systems, switch boards transformers and condensers, in wood and paper impregnation, as a softening agent	0,001%
88	Polycyclic aromatic hydrocarbons (PAH; PCAH), selected		D	FI/LR	All applications except those listed below.	EU-D 67/548/EEC EU-D 2005/69/EC	Impurities in organic material	1000 ppm

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
88.1			D	LR	Extender oils and extender oils in tyres	EU-D 2005/ 69/ EC	Extender oils and extender oils in tyres	<p>1. Extender oils shall not be placed on the market and used for the production of tyres or parts of tyres, if they contain:</p> <ul style="list-style-type: none"> — more than 1 mg/kg BaP, or — more than 10 mg/kg of the sum of all listed PAHs. <p>These limits are regarded as kept, if the polycyclic aromatics (PCA) extract is less than 3 % by mass, as measured by the Institute of Petroleum standard IP346: 1998 2.</p> <p>Furthermore, the tyres and treads for retreading manufactured after 1 January 2010 may not be placed on the market if they contain extender oils exceeding the limits indicated in paragraph 1. These limits are regarded as kept, if the vulcanised rubber compounds do not exceed the limit of 0,35 % Bay protons as measured and calculated by ISO 21461</p>

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
88.2			D	FI	Synthetic rubber		Synthetic rubber, excluding tires	20 ppm for Benzo(a)pyrene and 200 ppm for 8 PAH according to GADSL Reference list
89	Radioactive substances (including scrap metal contaminants)		D	FI		EU-D 96/29/ Euratom	High intensity discharge lamps	Above Background radiation
90	Selenium and its compounds, all members		D	FI		Japan (Waste Disposal and Cleansing Law)	Photorelectronic device, Glass colorant and decolorant, Free-cutting steel, Semiconductor	
91	Silica, Crystalline	14808-60-7	D	FA		IARC Group 1 Carcinogen, US National Toxicology Program Probable Human carcinogen		Any intentionally added content
92	Sodium azide	26628-22-8	D	FI		Pyrotechnical compound	Pyrotechnical compound	
93	Styrene (Vinyl benzene)	100-42-5	D	FI		EU-D 67/548/EEC	Residual monomer in ABS-, Polystyrene-, SMC-, UPE-resin	
94	Styrene oxide (Epoxy styrene)	96-09-3	D	FI		EU-D 67/548/EEC	Residual monomer	
95	Sulfur Hexafluoride	2551-62-4	P	FA		Substance of concern due to global warming potential	Vehicle applications (e.g. tire inflator systems)	
96	Tetrabromobisphenol A (TBBPA)	79-94-7	D	FI		EU risk assessment	Flame retardants in polymers, textiles etc.	

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
97	Tetrachlorobenzene, all members	12408-10-5 84713-12-2	P	LR		Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41. Published in Canada Gazette Part II, 2006-11-29 Vol. 140, No. 24		Any intentionally added content
98	Tetrafluoromethane	75-73-0	P	LR		Statutory Order no. 552 of 2 July 2002 of the Danish Ministry of the Environment	pressure accumulator	
99	Thallium and its compounds, all members		D	FI		EU-D 67/548/EEC	Electric components, sensors	
100	Thioperoxydicarbonic diamide ((H₂N)C(S)]₂S₂), tetramethyl-	137-26-8	D	FI		Japan:(Waste Disposal and Cleaning Law)	Vulcanization accelerator for rubber	
101	Toluene	108-88-3	D	FI		EU Directives 67/548/EEC, 76/769/EEC, Toxic for reproduction-Category 3. Possible risk of harm to the unborn child.	Residues in adhesives and paints.	
102	o-Toluidine generating substances, selected	95-53-4	D	FI		EU-D 67/548/EEC, EU-D 76/769/EEC		1,5%
103	Tris(2-chloroethyl)phosphate	115-96-8	D	FI		EU-D 67/548/EEC	Flame retardant	
104	Trichlorophenol and its salts, all members		D	FI		EU-D 67/548/EEC	Biocide (e.g. preservative for leather and textiles)	

	Substance	CAS-No.	Classification	Reason code	Application	Source (Legal requirements regulations)	Generic examples	Threshold (0,1% if not stated otherwise)
105	Trichloropropane (1,2,3 - Trichloropropane)	96-18-4	D	FI		EU-D 67/548/EEC	As solvent and as trifunctional cross-linking agent e.g. for polysulphide elastomers	
106	Trimethylphosphate	512-56-1	D	FI		(EU-D 76/769/EEC)	Flame retardant	
107	Triorganotin compounds (trialkyl- and triaryltin compounds), all members		D	FA		EU-D 76/769/EEC EU-D 67/548/EEC	Biocides	
108	Triphenylphosphate	115-86-6	D	FI		Flame retardant under review	Flame retardant	
109	Tris-(1-aziridiny) phosphine oxide	545-55-1	P	LR		EU-D 83/264/EEC	Flame retardant	
110	Tris(2,3-dibromopropyl)phosphate [TRIS]	126-72-7	P	LR		EU-D 79/663/EEC	Flame retardant	
111	Vinyl chloride	75-01-4	P	LR		EU-D 67/548/EEC	Residual monomer in polymers	Threshold 5ppm vinyl chloride monomer in materials