Global Automotive Declarable Substance List (GADSL)

Guidance Document（2016）

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Global Automotive Stakeholder Group (GASG)

Contents

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1. GADSL Objectives

Major objectives of automotive product development include continuous improvements in quality, safety, and the reduction of environmental impact throughout vehicle the 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 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.

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
Component	An element of a vehicle that has a defined weight and shape
Parts	A manufactured object made up of one or more homogeneous 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 regulated[1], 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.

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

- 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 test[2].
- 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 homogeneous materials, not on the total content in the component or assembly.

P = Prohibited.
A substance designated "P" is prohibited for all automotive uses in at least one region / market, or may not exceed a regulated threshold limit for all automotive uses in at least one region / market.

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

D/P = Declarable or Prohibited.
A substance designated as "D/P" has both allowed uses and prohibited uses in at least one region/market.

This definition is also applicable to substance entries which describe a combination of different compositions or chain lengths of individual substances. The substance entry must be evaluated to determine if any of the individual substances are declarable or prohibited.

Substances marked D/P and P must also be declared if they are present above the stipulated threshold (e.g. 0.1%).

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.

[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.

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 http://www.gadsl.org. 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. 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.

APPENDIX

1. Organization

1.1 Global Automotive Stakeholder Group (GASG)

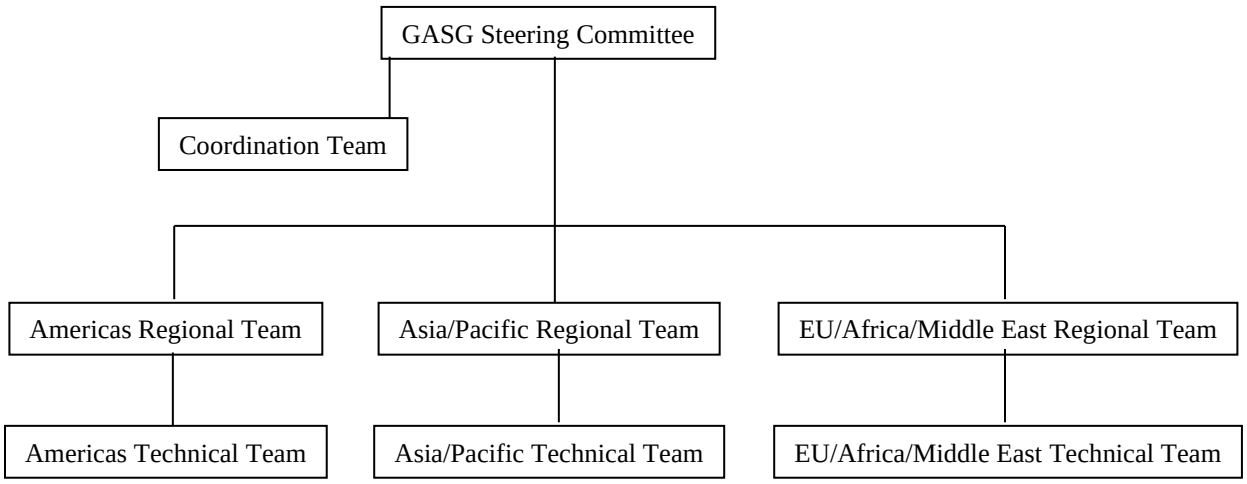
GADSL is managed by the Global Automotive Stakeholders Group (GASG), a voluntary organization open to any member of the automotive supply chain. The GASG consists of the Americas, Europe/Africa/Middle East, and Asia/Pacific regions. Regional teams consist of representatives of the automotive, supplier and chemical industries. Each of the three regions nominates six members to sit on the governing body of the GASG, called the Steering Committee (GASG-SC). The Global Automotive Declarable Substance List (GADSL) is issued and updated by the GASG-SC. The GASG-SC meets annually or more as needed to decide on the GADSL and to provide a transparent and open process for decision making, as well as serving as a clearing house for unresolved topics among the regions.

1.2 GASG Regional Technical Teams

The proposed content for the GADSL is prepared by the Technical Teams of each region as basis for dossier approvals by GASG-Regional Groups and global approval by GASG-SC.

1.3 GASG Coordination Team

The GASG Coordination Team consists of members selected from the regions and is responsible for ensuring the implementation of the decisions of the GASG-SC. The Coordination Team prepares all of the information that is posted on the www.gadsl.org public website. The finalized documents are reviewed by the GASG-SC prior to posting.



1.4 GASG Contact: see http://www.gadsl.org/ Contact Information

2. GADSL Process

2.1 GADSL Management

GADSL is managed by the Global Automotive Stakeholder Group. This group makes decisions on substances in a transparent way in accordance with the globally agreed criteria. 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 environmental protection. At the latest, 12 months after the publication date, any declaration should be performed according to this updated version. However, in special cases (e.g. REACH, ELV, EPA TSCA, etc.) an intermediate update might be required. All changes must be documented by the submission of a dossier. Any stakeholder in the automotive supply chain can submit proposals for new entries or changes in GADSL. Every request has to be submitted using the GADSL dossier template via the appropriate Regional or Country contact of the Global Automotive Stakeholders Group (GASG) prior to July 15 each year (see GADSL contact list).

2.2 GADSL Inclusion Process

- New legislation or change for substance in existing legislation occurs
- Relevance for automotive industry is checked
- Dossier for the substance is submitted and reviewed
- Regional GADSL teams propose a decision about inclusion on GADSL
- GASG makes the final decision about inclusion on GADSL

2.3 Transfer in company specific documents and databases

GADSL is intended to be a public document, freely available to third parties under the following conditions:

- GADSL has to be used in its totality (no cut and paste).
- Substance evaluation and declaration have to be adjusted for the specific uses in the respective industry sector.
- 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.

3. GADSL Database

3.1 Application and Validity

The official GADSL will be the current English version as posted on the GADSL website: http://www.gadsl.org. GADSL in other languages is for informational purposes only.

- The GADSL contains the substance list: individual substances and all members of substances within the substance groups. This document is the GADSL reference spreadsheet used in the IMDS Basic Substance List and in company-specific databases for material declaration of automobile parts.

3.2 Functionality of the GADSL

3.2.1 Structure of GADSL

1. Column A	**Substance Index number** In the list, "+" signs are added. Clicking on the signs expands the list to show each individual substance in a substance group.
2. Column B	**Substance name**
3. Column C	**CAS No.** The CAS No. is the index number of Chemical Abstracts Service database. The CAS No. is a unique identifier and is preferably used instead of the chemical name. All single substances listed in the Reference List are identified by CAS No.
4. Column D	**GADSL-classification** **P = Prohibited:** A substance designated "P" is either prohibited by regulation for use in certain automotive applications or may not exceed regulated threshold limits for these. **D = Declarable:** A substance designated "D" must be declared, if it exceeds the defined threshold limits. Designation as "D / Declarable" does not necessarily mean, however, that the substance is prohibited from being used in vehicle parts or is to be de-selected from use.
5. Column E	**Reason code** Information for the reasons, why a substance has been classified as D and/or P: **LR:** Legally regulated **FA:** For assessment **FI:** For information
6. Column F	**Source** Reference to respective legislation.
7. Column G	Effective Date (Legal requirements, regulations) When a substance restriction will come into force/be effective with Column H below.
8. Column H	**Action required**
9. Column I	**Generic examples** Presence of a substance in typical applications. The examples are indicative and not exhaustive and use in other applications does fall within the scope of GADSL.

10. Column J	**Threshold** Unless otherwise stated, the default content threshold at which substances become declarable is 0.1% (percent by weight). For reasons including regulatory compliance, some substances are subject to further clarification remarks on content threshold.
11. Column K	**First added** Date of first entry
12. Column L	**Last revised** Date of latest revision of entry

The Deletions tab lists substances which have been deleted from the GADSL along with the date and reason for deletion.

3.2.2 Definition of a substance and/or substance group

Certain substances are grouped together for ease of reference. They include elements and their compounds (e.g. lead and its compounds), organic compound series (e.g. Nonylphenol ethoxylates) and compounds with the same risk profile (e.g. Ozone depleting halogenated Hydrocarbons and Carbons). These entries are marked as “All Members”. The GADSL generally provides a comprehensive listing of such substances. Therefore, there is a need to consider for declaration any substance belonging to a substance group within GADSL irrespective of whether it appears individually in the GADSL. In contrast, an entry designated as “selected” refers only to a limited list of substances within a group, each of which individually meets the criteria for being declarable or prohibited. Other members of the group are not within scope of GADSL. An example of such a limited entry is that for "Phthalates, selected" which specifically targets certain phthalates that are recognized and regulated as toxic to reproduction, e.g. DEHP. The GADSL should always be consulted in such cases since it specifies the affected substances together with their CAS Nos. Some substances may appear twice in GADSL as they belong to different groups (e.g. Chromium lead oxide: Chromium(VI)-salts, all members, and Lead and its compounds, all members).

3.3 Rules of Declaration

3.3.1 Examples of Scope & Applicability

Within scope of GADSL	Not within scope of GADSL
Hexavalent chromium present in the corrosion prevention coating of a fastener (a vehicle part – also referred to as a so-called 'hard part').	Hexavalent chromium present on a part transfer pallet (since this is not vehicle associated).
A nonylphenol ethoxylate used in a prefilled windscreen/windshield washer fluid reservoir (since this material is present in the vehicle at the point of sale).	A nonylphenol ethoxylate used as a surfactant in a facility maintenance chemical (Note: Some OEMs maintain separate substance restriction lists applicable to process chemicals – these should be separately referenced).
A cobalt compound remaining in the cured (dry) state of a vehicle paint.	A solvent initially present in vehicle paint, but which evaporates during the production process. It isn't present on the vehicle at the point of sale.

3.3.2 Declaration of metal containing materials

If a material contains a metal and the metal is declarable, the 0.1 weight % threshold applies for the metal content. Example: A wire contains 1.6% of a material that is 25% metal. The metal is declarable because its weight % is 0.4% in the wire. (1.6% x 25%/100% = >0.4%)

3.3.3 Threshold for Declaration

The threshold value for declaration of a substance is based on the lowest applicable regulatory limit where it exists. On or above this threshold, substances have to be declared. In some regulations no regulatory limits are given. In these cases, any intentionally added amount of a substances has to be declared, as required by the regulation (e.g. Canadian Challenge list).

If such a regulatory limit does not exist, the default threshold at which substances become declarable will be 0.1% (percent by weight). This threshold was originally based on the CLP (Classification and Labeling Regulation (EC) No 1272/2008 Annex I, table 1.1.) where generic cut-off values for toxic substances are defined. To further address those situations in regulations where no threshold is given, the phrase "no intentional addition" has been used in some cases.

3.3.4 Declaration of impurities

Unless specifically exempted, GADSL listed substances known to be present as impurities (i.e. not intentionally added), and which exceed the GADSL applicable content threshold, should be considered to be declarable. In some cases, specific clarifying remarks are provided where well known issues exist with impurities – e.g. see the entry for 'Arsenic and its compounds', where a separate threshold is set for arsenic impurities in metals and alloys. Particular attention should be paid to heavy metal impurities, e.g. regulated by the End-of-Life vehicles legislation, (2000/53/EC).

3.3.5 Calculation of the percent content of substances in materials

Percent content should be determined from the ratio of the masses of an individual declarable substance within a homogeneous material multiplied by 100, i.e.:

$$\frac{\text{Mass of Substance}}{\text{Mass of homogeneous Material}} \times 100 = \text{Percent Weight}$$

It is important that substance content is assessed at the material level, and not calculated as the amount of substance in a part or assembly.

3.3.6 Definition of "homogeneous material"

A homogeneous material is a basic material of construction that cannot be further dissociated by simple mechanical means into separate entities. In most cases it is not a part or assembly, since these are usually composed of multiple individual materials such as polymers, metallics, nonmetallics etc. Using the following illustrative example of a vehicle brake assembly:

Brake assembly with multiple parts including a brake pad
↳ Brake pad containing metallic backing and friction material subcomponents
↳ Friction material layer

Assuming the friction material weighs 40 grams in total, and contains 2 grams of the GADSL declarable substance antimony trioxide, then the percentage content of antimony trioxide is 5%, and it exceeds the declaration threshold (0.1 %, by weight). If, incorrectly, the weight of the entire brake assembly (2500 grams) was used instead for this calculation, then it can be seen that it would be erroneously concluded that the threshold had not been reached.

Correct application of this operational aspect of GADSL is very important so Automobile manufacturers have accurate information to ensure regulatory compliance with substance restrictions.

3.3.7 Examples of substance applications in GADSL

Examples of substance applications are purely illustrative concerning vehicle-related applications. They should not be considered to be in any way exhaustive, and use in other applications may be in the scope of GADSL.

3.3.8 Dealing with substances formed in situ in materials, e.g. due to reactions in manufacturing processes

These situations are anticipated to be relatively uncommon. But unless specifically exempted, such substances when listed in GADSL should be considered to be declarable if they exceed the content threshold. Their presence may be known and quantified because of notifications from upstream suppliers, or via analytical investigations linked to product stewardship considerations (see note below). An example relevant to the automotive sector would be the case of chlorinated dibenzodioxins (dioxins) which can be formed at trace concentrations during material processing. Note: It is not expected that suppliers necessarily perform *routine* analyses for the presence of GADSL listed substances.

3.3.9 Declaration of substances of packaging material

Packaging material for parts is out of scope of GADSL, because packaging material does not remain on the vehicle during use.

4. Substance declaration in IMDS

4.1 Information about reporting the presence of declarable substances

The International Material Data System (IMDS) contains detailed information on materials and substances in automobile parts. IMDS Recommendations give instructions on how to report the presence of declarable substances in parts and materials. In addition, specific requirements of individual vehicle manufacturers can be found. GADSL is standard in IMDS.

Refer to www.mdsystem.com.

4.2 Function of GADSL and IMDS Basic Substance List (IMDS-BSL)

The complete list of substances in IMDS is called the BSL "Basic Substance List". To simplify identification and reporting of GADSL-listed substances they are marked separately with D or P in IMDS System.

5. Disclaimer

If GADSL is translated in any other language, the English original issue is the official version. No liability claims can be derived from referencing the GADSL: The contents of the GADSL and its application do not relieve any of the parties involved in the process chain from their obligation to comply with all the government regulations regarding hazardous materials and any resulting additional prohibitions or application limitation.

Revision Dates	Revision Comment
01-Feb-2023	Revised D/P substance classification definition
01-Feb-2018	Revised substance classification definitions
16-Feb-2016	Revised document combines function and replaces both previous versions of Guidance Document and GADSL Document.