



Volvo Cars Restricted Substance Management Standard (RSMS)

Orientation

This standard replaces WSS-M99P9999-A1 for Volvo Cars.

The list of reportable substances are based on the Global Automotive Declarable Substance List (GADSL) and/or Table 1, and always refers to the latest valid update of the mentioned lists.

The list includes REACH Annex XIV substances in Table 1, and always refers to the latest valid update of the REACH Annex XIV.

This 2018 revision differs from the 2017 revision in that section 1 and appendix 1 have been updated and minor editorial changes have been made.



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1 Scope and field of application

The purpose of this standard, Volvo Cars Restricted Substance Management Standard (Volvo Cars RSMS), is to inform Volvo Cars' suppliers and Volvo Cars' personnel about restrictions pertaining to certain substances. By regulation or by Volvo Cars' requirements, the use of these substances shall be restricted in or excluded from parts and materials, hereinafter referred to as "product(s)", supplied to and/or manufactured by Volvo Cars or intended for use in Volvo Cars' products. This standard supplements but does not supersede each supplier's responsibility to comply with applicable laws and regulations at the receiving Volvo Cars location(s). It is the duty of all suppliers of products to Volvo Cars to comply with this standard. Suppliers' reported data will be used to prove legal compliance.

All products supplied to Volvo Cars worldwide shall comply with the latest version of this standard, regardless of when they were originally approved.

This standard replaces and supersedes the specifications in WSS-M99P9999-A1 for Volvo Cars. Whenever this old number appears in a document, this new standard's requirements shall apply.

References to "Volvo Cars" within this document shall be construed as reference to Volvo Car Corporation and/or any of its affiliates, as defined in the applicable terms.

This standard is normally reissued (with or without revision) in the first quarter of each calendar year. The latest version can always be found at: <https://webstd.volvo.com/webstd/docs/5036.5>.

The 2018 RSMS reporting timeframe covers model years (MY) 2019 and forward. The timeframe requirements for prior model year production and spare parts are covered by earlier versions of RSMS. Already reported items which contain substances that are listed for the first time in this revision of RSMS shall be resubmitted with declarations that specify these new substances. Suppliers who have not complied with earlier reporting requirements shall submit past-due information immediately.

2 Definitions, abbreviations and links

The following terms are used by Volvo Cars in this standard in relation to the following examples of legal definitions, not excluding other legally binding definitions.

2.1 Article

The definition provided by REACH: REACH Legislation, TITLE 1:
<http://www.reach-compliance.eu/english/REACH-ME/engine/sources/title01.html>,
CHAPTER 2, Article 3, item 3.

2.2 Chemsoft

Volvo Cars chemical handling system. In this data system all chemical products used/handled at Volvo Cars facilities must be registered, evaluated and risk-assessed. The information is based on the (Material) Safety Data Sheets ((M)SDS; SDS) from our suppliers.

2.3 Conflict minerals

Conflict minerals currently include cassiterite, columbite/tantalite and wolframite (the most common derivatives are tin, tantalum and tungsten, respectively) as well as gold, regardless of where these minerals are mined, processed or sold.

The definition of conflict mineral can be found in the following legislation:
http://www.dodd-frank-act.us/Dodd_Frank_Act_Text_Section_1502.html.



2.4 End-of-Life Vehicles (ELV) Directive

EU: European Union Directive 2000/53/EC on ELVs

(<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2000L0053:20050701:EN:PDF>)

China: Bulletin 2015 No. 38 from MIIT. Requirement on Management of Automobile Hazardous Substances and Recoverability Rate

(<http://www.miit.gov.cn/n1146295/n1652858/n1652930/n4509607/c4511600/content.html>)

2.5 EU Type approval

Type approval (Directive 2007/46/EC) means the procedure whereby a legal or regulatory agency in the name of a European Member State certifies that a type of vehicle satisfies the relevant technical requirements. If a phase-out is required for vehicles type-approved after a certain date, this refers to the initial Whole Vehicle Type Approval (WVTA) of a certain vehicle. This date is typically around the Job#1 date. Type approval is the prerequisite for any registration of vehicles in the intended European markets. (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:263:0001:0160:EN:PDF>). Material and substance compliance and RRR is part of the WVTA.

2.6 Fibre

Unless otherwise indicated in this standard, a fibre is defined as a particle that is 5 µm or longer with an aspect ratio of at least 3 to 1.

2.7 Global Automotive Declarable Substance List (GADSL)

The GADSL is a globally harmonized declarable substance list. It is a result of the efforts of a global team from the automotive, automotive parts supplier, and chemical/plastics industries. The GADSL (<http://www.gadsl.org/>) covers substances that are expected to be present in a material or part that remains in a vehicle at the point of sale.

2.8 Global Reusability, Recyclability, Recoverability (RRR)

In order to comply with legal requirements, Volvo Cars must be able to show the authorities that a vehicle is recyclable. The RRR calculation is part of the Type Approval, where all the relevant information about a vehicle's recyclability and recoverability rates is expressed as a percentage of mass, in accordance with the ISO standard 22628.

2.9 Homogeneous material

"Homogeneous" means that there is a consistent material composition which cannot be separated mechanically into two or more different materials. "Mechanical separation" here means that it is generally possible to separate materials by means of cutting, trimming and abrasion. Homogeneous materials are for example plastics, metals, alloys and coatings. Materials such as metals with a coating (example: plated galvanized steel or copper wire with PVC coating) or layered composition materials (example: copper overmolded with polymer) are most likely not homogeneous.



2.10 Intentionally added

A substance/mixture/material that is deliberately utilized in the formulation of a material or component where its continued presence is desired in the final product to provide a specific characteristic, appearance or quality.

Recyclates used as feedstock in the production of new products, where some portion of the recycled materials may contain a small portion Volvo Cars RSMS-listed substances, are not considered to be intentionally added, unless specified by regulation (e.g. sale/use of products in Canada).

For the purpose of this standard, monomers remaining in cured polymeric articles (including paints) are considered residual content, and not "intentionally added".

2.11 International Material Data System (IMDS)

IMDS (<http://www.mdssystem.com/imdsnt/startpage/index.jsp>) is the automobile industry's material data system. IMDS collects, maintains, analyses and archives all materials and substances used for automobile manufacturing.

2.12 KDP

KDP is Volvo Cars' product data management (PDM) system.

2.13 New production parts

Parts with part numbers that are not currently in production or carried over from another vehicle. In other words, parts are considered to be new production parts when the part number changes.

2.14 Percent by weight, definition for material

Percent (%) by weight of a substance contained in a material:

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

2.15 Product(s)

The entity that is supplied to Volvo Cars. This entity can be an assembly, part (component), sub-component, material or substance. This could include the restricted substance itself (e.g. lead sulphide), a material containing the restricted substance (e.g. a friction material containing lead sulphide) or a component or assembly containing the restricted substance (e.g. a brake assembly with a lead-containing friction material). In this standard, a product is any entity that ends up on the vehicle or a spare part for a vehicle.



2.16 Recycled content

The portion of a material's or product's weight that is composed of materials that have been recovered from or otherwise diverted from the scrap stream, either from the production process (PIR) or after consumer use (PCR). Recycled content consists of PIR and PCR, but not home scrap.

- Post-Industrial Recyclates (PIR): Scrap which is a by-product of the production process (excluding home scrap) and reused in the production of the part.
- Home scrap: Material commonly reused by the industry within the original production process. Examples include materials which are re-granulated and re-fed within a facility. Home scrap is not considered recycled content.
- Post-Consumer Recyclates (PCR): Scrap generated by consumers which has been reused in the production of new parts. One example is the material from used PET plastic bottles, which is reused to make grill opening panels, another one is used bumpers being re-made into new bumpers.

2.17 Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

EU Regulation 1907/2006/EC, <http://echa.europa.eu/web/guest/regulations/reach/legislation>

2.18 Substance

The basic chemical or chemical compound that is listed in this standard, e.g. lead or lead sulphide.

2.19 Volvo Product Development System (VPDS)

The process tasks and deliverables necessary to develop and launch a vehicle. Team events and milestones are defined to communicate progress at various points throughout the process.

3 Requirements

Meeting RSMS and its reporting requirements is a requirement of the Production Part Approval Process (PPAP) and part of the Manufacturing Site Assessment. It is the duty of all suppliers of products to Volvo Cars to comply with the requirements of this standard.

The primary intent of this standard is to control restricted substances within formed articles and non-dimensional materials that are part of the product. For non-product, non-dimensional materials, the relevant chemical handling processes and requirements shall be complied with.

3.1 Instruction applying to all products supplied to Volvo Cars

This section relates to general requirements affecting all products supplied to Volvo Cars. Individual restricted substances are listed, with the type of restriction indicated, in GADSL and/or Table 1.



3.1.1 Products of or from endangered species

Products of or from endangered species shall not be supplied to Volvo Cars in any form.

Products of or from endangered species include any substance or material that originates from an endangered species. Suppliers shall only use species that are classified as Least Concern, LC, on the latest "International Union for Conservation of Nature and Natural Resources (IUCN) Red List of Threatened Species"; <http://www.redlist.org>

For timber products, the following additional requirements apply:

The traceability of timber/veener needs to be specified and documented.

All timber products must be sourced from forests that comply with one of the following requirements:

- Certified under the "Forest Stewardship Council" or the "Programme for the Endorsement of Forest Certification Schemes"
- or
- Declared as sourced from plantation or recycled timber or licensed under the FLEGT system (EU Action Plan for "Forest Law Enforcement, Governance and Trade").

3.1.2 Instruction for radioactive products

Radioactivity contamination shall meet "Unconditional Use Clearance Level" requirements consistent with the International Atomic Energy Agency's (IAEA) and the Commission of European Communities' (CEC) standards for individual radionuclides IAEA-TECDOC-855 (1996) & Safety Series RS-G-1.7 (2004).

http://www-pub.iaea.org/MTCD/publications/PDF/te_855_web.pdf

http://www-pub.iaea.org/MTCD/publications/PDF/Pub1202_web.pdf

For additional radiation-protection information, see the document Radiation Protection 122 (2000 and 2002, respectively):

http://ec.europa.eu/energy/sites/ener/files/documents/122_part1.pdf

http://ec.europa.eu/energy/sites/ener/files/documents/122_part2.pdf

3.1.3 Prohibition of reuse

Reuse is prohibited for those parts (e.g. airbags, seats, inflators, etc.) listed in Annex V of the EU Directive 2005/64/EC (<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32005L0064>) in the construction of vehicles covered by the EU Directive 70/156/EEC.

3.2 Substance restrictions (as identified in Table 1)

Substance restrictions are identified in GADSL and/or Table 1 by substance name, type of restriction, threshold limit (where applicable), applications affected/exempted and effective dates. All substances listed in GADSL and/or Table 1 must be reported in IMDS.

3.2.1 Prohibited (P)

Substances designated as "Prohibited" (P) shall not be supplied in any products subject to the stated directions on the content threshold and affected applications. A maximum concentration value of 0,1 % (by weight) of the homogeneous material is tolerated for these substances, unless subject to other explicit threshold content limits specified by this standard in GADSL and/or Table 1.



3.2.2 Declarable (D)

Substances designated as “Declarable” (D) are legally regulated, projected to become legally regulated or required to be tracked for information-gathering purposes and must be disclosed.

3.2.3 Special Requirements

If prohibited substances conflicting with the above definition are identified in products supplied to Volvo Cars, they shall be reported and suppliers shall take immediate corrective actions. See special requirements for post-consumer recyclate (PCR) materials (in section 4.4).

3.2.4 Chemical Abstract Service (CAS)

Specific Chemical Abstract Service (CAS) numbers for substances listed in this standard affecting vehicle parts are illustrated in the current GADSL and/or Table 1. However, it is the supplier's responsibility to ensure that they identify all affected substances, even if the specific CAS numbers are not listed in GADSL and/or Table 1.

3.2.5 New production parts

This standard identifies substances and applications that are currently prohibited, as well as some that will become prohibited at a specified future date. To avoid unnecessary re-design/testing, new production parts shall comply with these future prohibition requirements during engineering gateways based on VPDS program requirements. If engineering validation of new production parts that meet future prohibition requirements is not possible, approval by the relevant Program Team shall be sought. This approval does not affect the requirement for all components to comply with the substance sunset dates shown in GADSL and/or Table 1.

3.2.6 Remanufactured and reused spare parts

Remanufactured and reused spare parts are exempt from the lead, mercury, cadmium and hexavalent chromium prohibition requirements in this standard, provided they were already on the market at the expiry date of the applicable exemption (effective dates are listed in Annex II of the EU ELV Directive). All new materials used in the refurbishment of these parts MUST comply with the substance restrictions in this standard.

3.2.7 Effective date

For production parts, unless otherwise stated, the effective date column in Table 1 refers to "Put on the market" dates. This normally reflects when a product is delivered to the distribution area (leaves the assembly facility) and a transfer of ownership has occurred. For products imported to regions implementing the EU ELV Directive, these dates refer to the customs clearance dates in these regions.

3.3 REACH Annex XIV substances

Substances listed in REACH Annex XIV shall be phased out of all products in time to comply with the relevant sunset date. See <https://echa.europa.eu/sv/authorisation-list> for the current list of Annex XIV substances. These phase-outs shall be handled and notified in the same manner as any other part changes.



4 Reporting of restricted substances and recycled content

Volvo Cars subscribes to the GADSL for the reporting of substances contained in products, both production and spare parts. Additional or modified requirements on top of the GADSL are contained in Table 1.

4.1 Reporting timing and deadlines

Suppliers are required to meet the reporting deadlines for production and spare parts in accordance with the VPDS.

Product data submissions:

- Current production and spare parts should already have been reported in IMDS. If they are not, or if an update is required (see below), they shall be reported immediately.
- All parts, both production and spare parts, shall have a final material datasheet reported in IMDS in time for PPAP Phase 0+.
- All parts, both production and spare parts, shall have a final accepted material datasheet in IMDS before Job #1, or in time for PPAP Phase 1, whichever comes first.
- If a part is included in a European RRR calculation (Reusability, Recyclability, and Recoverability), the affected suppliers will be informed and these parts shall be reported earlier than PPAP Phase 0+. The RRR portion of the Whole Vehicle Type Approval is performed in accordance with ISO standard 22628. The deadline for IMDS submissions for RRR parts should be expected to be 8–10 months before Job#1. For this requirement, a preliminary datasheet (former DSR = Development Sample Report) is sufficient. However all preliminary datasheets shall be replaced by final IMDS datasheets prior to the above specified PPAP and gate deadlines.
- If a part is included in China ELV reporting, the affected suppliers will be informed and these parts shall be reported earlier than PPAP Phase 0+. The deadline for IMDS submissions for these parts should be expected to be 8–10 months before Job#1. For this requirement, a final datasheet is required.



4.2 Electronic reporting using the International Material Data System (IMDS)

All parts and materials that remain on a vehicle at the point of sale, and all spare parts and accessories, shall be reported using IMDS (<http://www.mdssystem.com>). Volvo Cars requires that all datasheets be sent to Volvo Cars (IMDS company ID 106).

For parts used by VCC, where CEVT is the design owner, the supplier should send the datasheet in IMDS to CEVT (IMDS company ID 156635) on CEVT PN. Volvo Cars' detailed IMDS reporting requirements can be found in Appendix 2.

Suppliers are required to:

- Report substances – All substances covered by the GADSL and/or Table 1 (identity and percent by weight).
- Report materials – 100 % of materials, including classification and weight of all materials.
- Report components – All sub-components in an assembly must appear as such, i.e. as elements in IMDS datasheet's tree structure, as detailed in IMDS Rec001. The assembly component's stated mass at the top node of the component ("Measured weight per item") must represent the real mass. Real masses are either derived from statistical product control cards or are determined by weighing a statistically relevant number of items and calculating the statistical average (arithmetic mean).
- Report the percentage of recycled content in all materials.

An update of existing IMDS data is required in the following circumstances:

- A change in the mass of an end item part that exceeds $\pm 10\%$ or 50 g
- A new material
- A change in the mass of a material that exceeds $\pm 10\%$ or 50 g
- A new substance listed in the GADSL and/or Table 1 is added to a material
- A substance which has not already been reported but which is included in the GADSL and/or Table 1
- A change in the mass of a substance already reported in the GADSL and/or Table 1 that exceeds $\pm 10\%$, or if a change in the mass causes a threshold limit requirement to be exceeded
- A change in recycled content that exceeds $\pm 10\%$ or 50 g.

If the Volvo Cars part number changes, a new material datasheet is required.

4.3 Substance disclosure in IMDS

All substances listed in the GADSL and/or Table 1 shall be disclosed in IMDS.

- All substances identified in the GADSL and/or Table 1 of this standard must be identified with the correct CAS number when being reported in IMDS (except some fibres which are not reported by CAS number).
- The use of non-CAS identified substances is acceptable for the reporting of substances in accordance with IMDS Rec001.
- Paints, polymers, adhesives and sealants, etc., must be reported in the cured state.

Substances listed in the GADSL and/or Table 1 are not allowed to be marked or reported as "confidential" when being reported in IMDS. Volvo Cars strongly recommends that suppliers use the confidential-functionality in accordance with IMDS Rec001 rather than using jokers/wildcards.



4.4 Reporting of recycled content

- Only the weight of the recyclate within the component or assembly shall be reported as recycled content. Do not report the entire weight of the component or assembly as recycled content.
- For PCR only, suppliers are not obliged to report "Declarable" substances unless otherwise specified, although suppliers must report any substances that are listed as "Prohibited" in this standard.

4.5 Requirements for IMDS reporting, including spare parts and accessories

All production parts must be reported under the submission for the Tier 1 assembly, using the Volvo Cars production part number. If you supply Tier 2 (or Tier n) parts, this data must be sent to your customer. You shall use IMDS for data transfer of part information throughout the supply chain.

Spare part information shall be reported individually, per assigned Volvo Cars part number. The majority of spare parts are identical to production parts; however, service-level details may require additional part-reporting information.

Unique spare parts, not identical to production parts or past-model spare parts and which have not previously been reported as production parts per the assigned part number must also be reported.

4.6 Parts and materials that require reporting in both IMDS and Chemsoft

Non-dimensional materials contained in or on dimensional products, such as grease, lubricants, corrosion protection, as well as paints, adhesives and sealants, etc., must be reported in IMDS in the cured state. - Chemsoft must consistently be updated with the latest version of the Safety Data Sheets/Material Safety Data Sheets once the product has been approved and uploaded to the system, in accordance with the Chemical Handling Process.



5 General information

Additional information may be obtained through the activities shown in Appendix 1.

5.1 Substance restrictions

Table 1 Substance restrictions

| RSMS row number | Substance Category or notation | Classification (restriction level) | Applications affected (comments) | Threshold ¹ | Effective date |
|-----------------|---|------------------------------------|---|--|----------------------------------|
| 0 | All GADSL-listed substances | D/P ² | All materials are subject to the GADSL guidelines listed at http://www.gadsl.org | See GADSL; Additional or modified requirements to GADSL are listed below | Immediately |
| 0.1 | Additional or modified requirements to GADSL (see rows listed below) | D/P ² | Applications affected, additional substances, and/or differences in classifications beyond GADSL are listed below and apply to all products | | Immediately |
| 1 | Asbestos forms – minerals – all members Same CAS ³ no as in GADSL | P ⁴ | All products | Not detectable | Immediately |
| 2 | Hexabromocyclododecane (HBCD), Same CAS ³ no as in GADSL | P ⁴ | All products | 0,01 % | Prohibited after 21 August, 2015 |
| 3 | Decabromodiphenyloxide (Deca-BDE), CAS ³ no 1163-19-5 | P ⁴ | All products | 0,1 % | Prohibited after 1 July, 2011 |
| 4 | Products of or from endangered species | P ⁴ | All products | Not detectable | Immediately |



| RSMS row number | Substance Category or notation | Classification (restriction level) | Applications affected (comments) | Threshold ¹ | Effective date |
|-----------------|---|------------------------------------|----------------------------------|------------------------|-----------------------------------|
| 5 | Substances listed in EU REACH Annex XIV (Note: Raise demands can be found in rows 0–4.) | P ⁴ | All products | 0,1 % | After the applicable sunset dates |
| 6 | Conflict minerals including Tin, Tantalum, Tungsten, Gold and their Derivatives ⁵ | D ⁶ | All products | 0 % | Immediately |

¹ Percent by weight of a substance contained in a homogeneous material, see [2.9](#)

² D/P = Prohibited in some applications and declarable in all other cases

³ CAS = Chemical Abstracts Service

⁴ P = Prohibited

⁵ If intentionally added, see [2.10](#)

⁶ D = Declarable

6 Reference in design-engineering documentation

The reference below shall be indicated as a note in the text space of the relevant drawing or other design-engineering documentation:

Part must comply with VCS 5036,5



Appendix 1 Information contacts

Email contacts:

For IMDS information:

ingrid.rade@volvocars.com

For RSMS substance information:

kristina.gross@volvocars.com

For GADSL information:

kristina.gross@volvocars.com

For recycling information:

jessica.andreasson@volvocars.com

For interior environment information:

andreas.g.andersson@volvocars.com

Volvo Cars IMDS reviewers:

vccimdsreport@i-ntrinsic.com

For process chemical information:

pernilla.amprazis@volvocars.com

For REACH issues:

reachvcc@volvocars.com

New and updated Safety Data Sheets shall be sent to:

sdsvcc@volvocars.com



Appendix 2 Reporting requirements and guidelines

A2.1 Introduction

The purpose of this appendix is to clarify Volvo Cars' IMDS review requirements. Volvo Cars applies the IMDS recommendations, most notably IMDS Rec001 "General Rules and Guidelines for IMDS Material Datasheets". For everything not explicitly stated in this standard, IMDS recommendations shall be followed. The following sections contain information, as follows: Section A2.2 with tips for New IMDS users, Section A2.3 with Volvo Cars' requirements for "Recipient data" and finally Section A2.4 with IMDS review requirements that Volvo Cars wants to point out specifically. All references to rules in brackets in this Appendix refer to IMDS Rec001.

A2.2 Guidance

The main link to IMDS is www.mdssystem.com. The best place for a new supplier to learn about IMDS is to read "New to IMDS" on the IMDS homepage: <https://public.mdssystem.com/web/imds-public-pages/new2imds>.

You need to log in to IMDS to find the IMDS recommendations. On the "Help" menu you will find all IMDS recommendations. IMDS Rec001 is the general document to be followed to make correct, high-quality datasheets. Datasheets that follow IMDS Rec001 must be accepted by all OEMs.

IMDS Rec001 has an Annex (IMDS Rec001a) which can help you understand how to decide which material category is appropriate for your material (some examples are also given in section 2 of this Annex).

IMDS Rec019 facilitates the reporting of electronics.

IMDS Rec023 clarifies the differences between a final datasheet and a preliminary datasheet.

A2.3 Recipient Data

In the "Recipient data" section of a datasheet, Volvo Cars only requires the Part number, Part name and Supplier code. All other fields are not required and are not reviewed.

Part number

A list of reportable part numbers is uploaded to IMDS every weekend. A part number is reportable two weekends after it has been released in KDP. Uncoloured part numbers are not reportable. All parts within the colour system shall be reported on the coloured part numbers. Pre-series numbers are not reportable. All parts shall be reported by production part numbers.

Part name

The top-node component name shall be descriptive [Rule 4.2.1.C] and consistent with the described product [Guideline 4.2.1.b]. The component name shall not be the default name generated by IMDS (example: Component_12345678) [Rule 4.2.1.B]. All part names shall be in English [Guideline 4.2.1.a]. Part names will be reviewed and checked against KDP. If a part name is not in line with the name in KDP, the datasheet will be rejected. Preferably, the KDP part name should be used as is. Using the part number as the part name is not accepted.

Supplier code

The Volvo Cars Partner parent code shall be entered here. However, after entering the parent code, the user also has the possibility to enter the site code. If a datasheet is valid for all sites, only the parent code shall be entered. If, on the other hand, a datasheet is only valid for a single site within the company, the site code shall also be entered. For information on your supplier codes, please consult your VCC buyer.



A2.4 Review highlights

Exemption requests

If you want to apply for an exemption from a review rule, please e-mail the reviewers at the time of submission with a thorough explanation of the rationale for the requested exemption. Their e-mail addresses can be found in Appendix 1 of this standard. The normal handling time for an exemption request is around one week.

Submission timing

Volvo Cars reporting timings and deadlines can be found in Section 4 of this standard. The datasheets must be approved by Volvo Cars in order to fulfil the reporting requirements. Volvo Cars strongly recommends that you submit the datasheets well in advance of the applicable deadline. At least one month in advance is recommended to allow time for any necessary corrections. If you have several similar datasheets and are unsure if they will be accepted or not, please first send in one datasheet for test. That will save a lot of time for both you and Volvo Cars' reviewers. The datasheets will be reviewed in the order they arrive. A review should normally take a maximum of one week.

Datasheet validity

Only the latest submitted datasheet for a part number from an IMDS org. unit is considered valid. To ensure that Volvo Cars only has one valid datasheet per IMDS org unit, Volvo Cars will reject all datasheets but one if several datasheets for the same part number are submitted from one IMDS org id on the same day.

Weight

IMDS measured weight and KDP weight

The measured weight in IMDS is reviewed against the valid weight in KDP. The datasheet will be rejected if the deviation is greater than the below deviations. Volvo Cars strongly recommends that you check with the responsible Volvo Cars Design engineer that correct weights have been entered in KDP before submitting datasheets in order to avoid unnecessary rejections. Note that the datasheet is reviewed against the KDP weight value from the date of submission (not the review date).

| Weight of component (x) | Max. deviation in % |
|---|----------------------------|
| $x < 1 \text{ g}$ | $\pm 100 \%$ |
| $1 \text{ g} \leq x < 100 \text{ g}$ | $\pm 20 \%$ |
| $100 \text{ g} \leq x < 1 \text{ kg}$ | $\pm 5 \%$ |
| $1 \text{ kg} \leq x < 10 \text{ kg}$ | $\pm 2 \%$ |
| $10 \text{ kg} \leq x < 100 \text{ kg}$ | $\pm 1 \%$ |
| $x \geq 100 \text{ kg}$ | $\pm 0,5 \%$ |

IMDS measured and calculated weights

A component's stated mass deviation (deviation between "Measured weight" and "Calculated weight", in percent) will be reviewed and shall not exceed the tolerance specified on the appropriate production part drawing or in the applicable Quality Management Guidelines. If no other mass tolerance definition exists (i.e. approved by Volvo Cars), the datasheet will be rejected if the difference between "Measured weight" and "Calculated weight" is greater than the deviations stated above.



Material classifications

The material classification is always reviewed with regard to the substances used in the material and the datasheet will be rejected if it is not correct [Rule 4.4.2.G]. Material classifications are described in IMDS Rec001a. For a parent material node with child materials, the material category for the material with the highest share shall be used.

Homogeneous materials

Every homogeneous material shall be described as a separate material and not grouped together, e.g. "Electronics" [Rule 4.4.1.D]. For information about the definition of "homogeneous", refer to IMDS Rec001a, section 1.1 or section 2.9 of this standard. These two are the same definitions. If a material is suspected of being a mix of several homogeneous materials, the datasheet will be rejected.

Application codes

The application codes are always reviewed and the datasheet will be rejected if they are not correct [Rule 4.4.5.A] [Rule 4.4.5.B]. While the IMDS system suggests an application, it is the user's responsibility to verify that this is the correct application for each substance. Note that the application code is set on first component level, that is, when a material or semi-component is first added to a component.

Single substance polymeric materials

Polymeric materials normally contain special functional chemicals (e.g. colour concentrate, reinforcements, additives such as plasticizers & stabilizers, etc.) in addition to the base material [Guideline 4.4.1.a]. Volvo Cars will reject datasheets with material classification 5.x and 6.2 materials which only contain the base material, since all basic substances in a material must be disclosed, either explicitly or by use of a Joker/Wildcard [Rule 4.5.1.B]. Refer to the first paragraph of this section if your datasheet contains a classification 5.x or 6.2 material that actually only contains one basic substance.

SC90 type 3 checks: Liquids and Gases, Reactive Substances and Ions

Volvo Cars will reject for the three SC90 type 3 checks [Rule 4.4.1.B] [Rule 4.4.1.C]:

1. Liquids and Gases: If the liquid or gas content of a material exceeds 1% and the material does not belong to classification 9.x. An exception for this rule is water (7732-18-5), which does not have a content limit in a class 7.1 material.
2. Reactive Substances: If the reactive substance content is more than 1%.
3. Ions: If the ion content is more than 1%.

FBOM (Flat Bill of Material)

Submissions containing FBOMs will be rejected if they are not in line with IMDS Rec019 [Rule 5.2.A].

Non-dimensional materials

Non-dimensional materials such as grease, lubricants, rust preventers, as well as paints, adhesives and sealants, etc., contained in or on dimensional hard parts must be reported in IMDS. They need to be reported in their final (cured) state [Rule 4.4.1.B] [Rule 4.4.1.C]. Non-dimensional materials with weight information listed in a vehicle BoM are treated as regular hard parts and their datasheets shall be submitted to Volvo Cars, i.e., fuel, cooling agent. They shall be submitted as materials.



Ranges

Volvo Cars applies IMDS Rec001 rules for ranges on all levels: Semi-component [Rule 4.3.2.B], Material [Rule 4.4.3.B] and Basic Substance [Rule 4.5.4.B]. If you have real variations that exceed those ranges, you must apply for an exemption. See the first paragraph of this section for more information.

Wildcards/jokers

Volvo Cars will reject if the sum of wildcards and jokers exceeds 10% total per homogenous material [Rule 4.5.2.C], [Rule 4.5.3.E] and [Rule 5.1.A]. Do not use portion type "rest" for wildcards and jokers. Please refer to IMDS Rec001 to see an example of the reason for this.

Structure

Volvo Cars follows IMDS Rec001 for structure [Rule 4.1.A], except that we allow semi-components and materials on the same level. This is due to the fact that materials cannot be forwarded since IMDS release 9. The suggested work-around for companies that need to forward materials is to reference the material in a semi-component. This exemption will be withdrawn if another solution for this issue is developed.

Disclaimers

Datasheets with disclaimers are not accepted [Rule 4.4.2.K]. The datasheet reviewers have no mandate to accept the contents of a disclaimer. Any such requests shall be negotiated with your Volvo Cars Purchaser.

Preliminary (former DSR = Development Sample Report) datasheets

Volvo Cars follows the IMDS Rec023 guidelines on preliminary datasheets. If preliminary data is used in a final datasheet, the datasheet will be rejected [Rule 4.4.4.C]. Submission of preliminary datasheets is only required for certain part numbers, and is communicated separately for these part numbers. For all other part numbers, the final submission is sufficient. All preliminary datasheets must be replaced by a final datasheet in accordance with the timing described in Section 4 of this standard. Note that the review requirements are lighter for preliminary datasheets. That is, even if a preliminary datasheet is accepted, the same datasheet submitted as a final datasheet might very well be rejected.