S&PL Procedures

AEM HEDSL SOP

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# Executive Summary

The Association of Equipment Manufacturers (AEM) is the North American-based international trade group representing off-road equipment manufacturers, and their supply chains, with more than 1,000 member companies and over 200 product lines across five diverse industry sectors. Our members develop and produce a wide range of products, technologies, components, and systems that ensure non-road equipment remains safe and efficient, while operating in some of the most demanding and severe environments on earth with a product life cycle measured in decades.

The following document details the processes, procedures, and rules for administering the AEM Heavy Equipment Declarable Substance List (HEDSL). The HEDSL provides the non-road equipment sector, which encompasses all products which are designed and marketed for use in the construction, agriculture, utility, mining, and forestry sectors, a definitive list of substances that are either regulated, under review, or demonstrate potential risks to human health and/or the environment. Having a unified list for the entire non-road equipment sector to follow will reduce duplicative reporting requirements, streamline supply chain communications, prioritize substances of concern, and mitigate risk across all industry.

This document contains instructions on administering the essential functions of the committee and outlining the process for making final determinations which are central to managing the non-road sectors supply chain communication efforts. These include.

* Declaration Criteria
* HEDSL oversight committee
* HEDSL process determinations
* HEDSL format
* Rules of Declaration
* Definitions

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# Purpose of This SOP:

This HEDSL review SOP provides the HEDSL committee with a common process and operating standard to conduct the annual HEDSL review.

# Glossary of Terms/Definitions:

Article An object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition.[[1]](#footnote-1)

Component An element of a part that has a defined weight and shape.

Declarable Substance List (DSL) A consolidated list of chemicals and/or substances that are regulated, under review, or possess elevated risk characteristics for industry. Chemicals and/or substances listed on a DSL are required to be disclosed if they are present in a product, component, or part above the required thresholds.

Global Automotive DSL GADSL is the DSL for the automotive industry.

Global Automotive Stakeholders Group The GASG committees oversee the review of the GADSL list. Their purpose is to facilitate communications and exchange information regarding the use of certain substances in the automotive supply chain.

Heavy Equipment DSL (HEDSL) The declarable substance list for the off-road equipment manufacturing sector, which includes equipment in the construction, agricultural, mining, forestry, and utility sectors.

Non-Road Equipment Machines used in the construction, agricultural, mining, forestry, and utility sectors, as well as any AEM member company’s product portfolios.

Materials Chemical elements, chemical compounds, or preparations thereof in finished state used to manufacture products/articles.

Parts A manufactured object made up of one or more homogeneous material(s)

Preparations Mixtures, composed of two or more substances.

Products 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.

Substances Chemical elements or chemical compounds as parts of materials or preparations

Supply Chain Upstream manufacturers of components, materials, and parts.

# Criteria for Declarable Substance List:

The final decision to determine if a substance should be included on the HEDSL should be based on the following criteria:

* 1. The substance should be expected to be present in a material, part, or component in the equipment, and:
		1. Is a regulated substance,
		2. Is projected to be a regulated substance in the near future, or
		3. Could be considered a significant hazard by the members of the HEDSL committee.
	2. Reportable thresholds will be based on the lowest level required by the relevant regulation.

## DSL Classification

In order to align the HEDSL with the GADSL database as much as possible, reportable substances, when present in material, parts, or components, shall be listed with a “P” or “D” classification:

Prohibited (P): substances identified with a P designation will be prohibited from use in all off-road equipment applications in at least one region or may not exceed a regulated threshold limit in at least one region.

Declarable (D): A substance must be identified with a D designation if it exceeds the defined threshold limits.

Declarable or Prohibited (D/P): A substance must be identified with a D/P if it has both allowed uses and prohibited uses in at least one region. Substances marked D/P and P must also be declared if they are present above the regulated threshold.

## Reason Codes:

In order to align the HEDSL with the GADSL designations as much as possible, the HEDSL shall use the following codes to explain the reasoning behind substance designations:

Legally Regulated (LR): Substances are designated as a legally regulated substances by a country or region’s regulatory agency.

For Assessment (FA): Substances are projected to be regulated by a governmental body.

For Information (FI): Substance to be tracked for information purposes only.

Reason code designations do not mean the substance is prohibited from use in the product.

If all members of a substance family are designated as D or P then the designation “All Members” will be listed after the family name.

In some cases, substance families have the classification “D, except”. This indicates that all substances within a family are declarable except those that are listed directly below that are labelled with a P.

# HEDSL Committee Review Procedure

## Process:

The committee shall review each chemical based on the criteria outlined in **Table 1**.

Individual companies may submit new substances, or a new designation request, to the HEDSL committee for consideration that have not yet been published on GADSL. All substance considerations shall be made by using the HEDSL Dossier (**Proc - 2025.8.5 - Dossier.docx**).

The committee shall evaluate all proposed considerations to ensure that the targeted substance needs are properly addressed on the HEDSL list.

The HEDSL committee will give special consideration to newly proposed substances to ensure only necessary changes are made.

The HEDSL committee shall apply the safety principle towards adding or removing chemicals from the HEDSL. Chemicals should be added to, or left on, the HEDSL if the committee is uncertain to the presence of a chemical substance in non-road equipment.

At times, government bodies may regulate a chemical, or group of chemicals, without providing a list of specific Chemical Abstract Service (CAS) numbers to reference. Reasons for this include the fact that not all chemicals have a unique chemical identifier or the definition of the chemical family being regulated is very large. To accommodate these special instances, and ensure the HEDSL is clear for suppliers, chemicals without a CAS number shall be placed on a holding list, separate from the HEDSL list for special consideration and reviewed annually. The HEDSL committee shall determine the best method to convey these substances to the supply chain.

Note: some chemicals may not have a CAS number but may include an EU EC number as the only identifier. While the CAS number is preferable, the HEDSL will include the most prominent chemical identifier on the list.

For chemicals that are already on the HEDSL, but transition from being declarable to being prohibited. These changes shall be added to the list, but not published until the annual review meeting.

All additions or subtractions to the HEDSL requires a 2/3rds vote of approval by the committee members. Votes may be taken in person or through a balloting process.

# **The Dossiers**

To ensure the HEDSL committee fully documents all decisions, all chemicals or chemical families shall use the dossiers available to the

##  Criteria for substance Inclusion/Exclusion:

All designations for inclusions and exclusions on the HEDSL list will be made by the AEM HEDSL Committee. Criteria for decisions will be based on the following:

* Substance is regulated or projected to be regulated by a governmental agency or authority.
* It is demonstrated, through test data, 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 the equipment 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.
* Substance causes a functional problem in product design, if presence in the equipment part exceeds a level shown to be problematic by an international industry standard test
* Relevance to the Off-Road industry
* Submission requests from AEM member companies that are reviewed by the HEDSL committee.

# Format of HEDSL:

The HEDSL shall mirror the GADSL as much as necessary.

**Table 1: Datapoints of the HEDSL**

|  |  |
| --- | --- |
| 1. Column A
 | Substance Index Number: Numerical identification of the substance in the database |
| 1. Column B
 | Reference # |
| 1. Column C
 | Substance Name |
| 1. Column D
 | CAS Number: All single substances listed on the list shall have a CAS number identification |
| 1. Column E
 | Classification: P, D, or P/D |
| 1. Column F
 | Reason Code: LR, FA, FI |
| 1. Column G
 | Source: Reference relevant Regulation |
| 1. Column H
 | Source Notes |
| 1. Column I
 | Effective Date |
| 1. Column J
 | Action Required |
| 1. Column K
 | Generic Examples: Present Substance in typical applications |
| 1. Column L
 | Threshold Reporting Value: Default shall be .01% (percent by weight) |
| 1. Column M
 | Threshold notes |
| 1. Column N
 | Date First Added  |
| 1. Column O
 | Date Last Revised |

## HEDSL Tabs

The HEDSL list shall include a series of tabs to provide the recipient with helpful information

## **Reference List**

This tab provides the full HEDSL List, with the columns provided in Table 1.

## **Divergences**

This tab provides information on the divergences between the HEDSL and other declarable substance lists. Reasons for divergence:

1. Process chemicals
2. Regulatory differences between the non-road and on-road industries.
3. Differences in chemical use cases (i.e., regulations focused on chemicals in children’s car seats)

Divergences are to be held and reviewed for relevance on an annual basis.

## **Changes From last Version**

This tab provides details on the changes made to the document from the previous version.

## **Version-Disclaimer-information**

This tab provides the version control information, a disclaimer regarding the use of this document, as well as some useful information regarding the nomenclature found on the reference list tab.

## 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 HEDSL 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 HEDSL irrespective of whether it appears individually in the HEDSL. 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 HEDSL. 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 HEDSL should always be consulted in such cases since it specifies the affected substances together with their CAS Number. Some substances may appear twice in HEDSL as they belong to different groups (e.g. Chromium lead oxide: Chromium(VI)-salts, all members, and Lead and its compounds, all members).

# Rules of Declaration:

The following section outlines specific examples, concepts and processes for properly classifying and designating new substance additions to the HEDSL:

## 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%)

## 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 must be declared. In some regulations no regulatory limits are given. In these cases, any intentionally added amount of a substances must be declared, as required by the regulation.

If such a regulatory limit does not exist, the default threshold at which substances become declarable will be 0.1% (percent by weight).

## Declarations of Impurities

Unless specifically exempted, HEDSL listed substances known to be present as impurities (i.e. not intentionally added), and which exceed the HEDSL applicable content threshold, should be considered to be declarable. In some cases, specific clarifying remarks are provided where well known issues exist with impurities.

## 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.:

(Mass of substances/Mass of homogeneous Material) x 100 = percent weight

## 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, nonmetallic etc.

## Dealing with Substances formed in situ in materials (due to reactions in the manufacturing process)

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.

## Packaging Materials

Normally considered out of scope for the HEDSL

# **HEDSL Nomenclature**

Future updates to the list will be named under a decimal system:

1. Emergency updates based on technical changes increase the decimal value
	1. Ex: a technical change to a series of chemical names changes the HEDSL list from 3.0 to 3.1
2. Whole number updates are based on the annual update.
	1. Ex: the HEDSL list changes from 3.0 to 4.0 following the annual review.
1. Definition of article within REACH. [↑](#footnote-ref-1)