

## 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, rules, governance, and structure of 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 governance structure:

The HEDSL provides the non-road equipment sector, and its value chain, a definitive list of substances that are either regulated, under review, or demonstrate potential risks to human health and/or the environment.

## Jurisdiction:

The HEDSL committee consists of a North American AEM based Technical Committee. This committee will review global chemical issues.

## 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. <sup>1</sup>
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.

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<sup>1</sup> Definition of article within REACH.

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:

- a. The substance should be expected to be present in a material, part, or component in the equipment, and:
  - i. Is a regulated substance,
  - ii. Is projected to be a regulated substance in the near future, or
  - iii. Could be considered a significant hazard by the members of the HEDSL committee.
- b. 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.

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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

### Committee Oversight

The HEDSL Committee is responsible for administering all reviews, updates, corrections, and maintenance of the HEDSL. All final HEDSL determinations rest with the HEDSL committee.

The HEDSL committee reports to the AEM Substances Compliance Council (SCC) which reports to the Safety & Product Leadership Council (S&PLC).

### Responsibilities

This HEDSL's primary responsibility is to review substance designations under GADSL and ensure the two lists remain as harmonized as possible, while also ensuring the HEDSL meets the needs of the off-road equipment industry.

The HEDSL committee should meet at least once per month. Committee meetings may be cancelled based on quorum issues related to scheduling conflicts. The Committee Chair and Vice-Chair will work with AEM staff and the committee manager to schedule make up sessions as desired. The HEDSL committee should meet at least once prior to the GASG meeting to review new global chemical regulations, restrictions, and chemicals of concern, and once afterwards to review updates to the GADSL. On an annual basis, the committee should meet in person at least once per year.

The HEDSL committee must review all substance designations within 12 months of categorization on the GADSL list.

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The HEDSL committee workload shall adhere to an annual cadence. The timing of this cadence will be determined by the HEDSL committee to ensure work is accomplished on a timely basis.

## Important Dates:

- February – AEM HEDSL finalizes new substance review.
- March – AEM HEDSL subcommittee votes on added or subtracted substances.
- April – AEM HEDSL communicates results to the Substance Compliance Council (SCC) for final approval.
- Further reviews may take place if the HEDSL committee votes on, and approves of, additional review periods. Additional review periods may be necessary under certain urgent circumstances.

## Quorum Rules

The following Quorum Rules are adopted from the by-laws established by the S&PL Council.

1. Prior to the meeting, committee officers and staff will decide which agenda items require a quorum to reach a committee decision.
2. Quorum is achieved when the smaller of the following two options is met:
  - a. 50% of the committee roster participating, or
  - b. A minimum of 20 voting members
3. Not all votes require a quorum. Those votes require a simple majority vote of present attendees.
4. Committees require a minimum of five individual member companies to meet.
5. When voting on an agenda item that requires a quorum, member company only possess one vote, regardless of how many representatives from each company sit on the committee.
6. Each member company shall appoint ONE Representative and may, if desired appoint one or more (preferably not more than two) Alternate. Other Member Company personnel shall be permitted to accompany the Representatives and/or Alternates at meetings, as guests.
7. Each Member Company shall have one vote, which may be cast by the Representative or, in their absence, by their Alternate.
8. Quorum rules can be changed by a two-thirds vote by the Safety & Product Leadership council.

## 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 – 2022.12.5 – HEDSL Dossier**).

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.

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.

## 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.

## Management of HEDSL Database:

Management of the HEDSL shall be maintained by AEM Staff and an assigned committee manager.

The Database, FAQ, and process documents shall be listed on the AEM website and available to all AEM member companies and suppliers.

All submission request and relevant committee documents will be provided to AEM staff by AEM member companies.

## Committee Structure:

The HEDSL mirror committee comprised of interested AEM members to help make determinations on chemical/materials/supply chain regulatory developments with regards to our products.

## Committee Membership Requirements:

Committee membership consist of AEM member companies only. Non-AEM member companies and individuals may attend HEDSL committee meetings based on a 2/3rds majority vote of approval. Non-AEM member attendees do not have voting privileges. Voting privileges are reserved only for member company representatives.

AEM members may send multiple employees from the same company to sit on the HEDSL Committee. Every AEM representative member company sitting on the HEDSL committee only possesses one vote. Voting members may appoint an alternative by notifying the Chair or AEM staff member.

HEDSL Committee company members must attend a minimum of 5 committee meetings per year in order to maintain good standing. Committee company members must be in good standing to maintain voting privileges.

Subject matter expertise is critical to the efficiency and effective operation of the committee. Therefore, the membership of committee requires a wide array of expertise:

- b. Chemists,
- c. Toxicologists,
- d. Product designers,
- e. Material scientists,
- f. Regulatory professionals,
- g. Supply chain professionals,
- h. Chemical company representatives,
- i. Lawyers

## Size:

Between 15-30 people

## Committee Resource Requirements

The committee requires an AEM staff liaison. This individual will ensure meetings are properly scheduled and administered, documents are collected and maintained, and the HEDSL list is kept up to date and available on the AEM website.

The committee requires a part-time consultant to work on an 'as needed' basis to provide to chemical, toxicological, and regulatory expertise required to advise the committee on substance determinations. This individual will be responsible for reviewing relevant substance regulations, as well as the toxicology literature on new substances of concern. They are intended to provide advisory functions only, as ultimate decision-making authority rests on the HEDSL committee members alone.

The part time consultant reports directly to 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
2. Column B	Substance Name
3. Column C	CAS Number: All single substances listed on the list shall have a CAS number identification
4. Column D	Classification: P, D, or P/D
5. Column E	Reason Code: LR, FA, FI
6. Column F	Source: Reference relevant Regulation
7. Column G	Effective Date
8. Column H	Action Required
9. Column I	Generic Examples: Present Substance in typical applications
10. Column J	Threshold level: Default shall be .01% (percent by weight)
11. Column K	Date First Added
12. Column L	Date Last Revised

## 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. ( $1.6\% \times 25\% / 100\% = >0.4\%$ )

## 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.:

$(\text{Mass of substances} / \text{Mass of homogeneous Material}) \times 100 = \text{percent weight}$

## 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