

# Alfa Laval Restricted Substance List

## Introduction

The Alfa Laval Restricted Substance List (AL RSL) provides information about restrictions on the presence of substances in Alfa Laval Groups processes and products (materials, components, and parts of our products) as well as packaging. The list includes legislations and global agreement deemed relevant for our products and area of business. This requirement is in addition to any local legislations. Any presence of substances regulated in the listed legislations must be reported to Alfa Laval for further evaluation.

The Alfa Laval Restricted Substance List supersedes Alfa Laval Group Black and Grey List.

The AL RSL list is divided into three different categories:

- **Banned** substances are substances which are prohibited.<sup>1</sup>
- **Restricted** substances are prohibited in certain applications relevant to the Alfa Laval Group. A restricted substance may be used if the application is unmistakably outside the scope of the legislation in question.
- **Risk substances**<sup>2</sup> are substances which presence must be evaluated and monitored. This includes substances currently being evaluated for regulations applicable to the Banned or Restricted categories, or substances with legal requirements for reporting and/or monitoring. Responsible Product Owners must be aware of the associated legal notification requirements and ensure legal compliance to these requirements. They shall also evaluate the potential risks with continued use of a risk substances.

1. *Prohibited use, or put on the market, regardless of application. Thresholds might apply.*

2. *Category formerly known as "Substance of Concern"*

# The legislative list

## Banned

- EU Directive 2013/59/Euratom on ionizing radiation
- EU Regulation 2024/590/EC on substances that deplete the ozone layer, Annex I
- Stockholm Convention. Substances listed in Annex A: Elimination
- EU Regulation 2019/1021/EC on persistent organic pollutants Annex I, POP
- EU Regulation 1907/2006/EC REACH Annex XIV
- EU Regulation 1907/2006/EC REACH Annex XVII, entries 1, 6, 24-26, 68

## Restricted

- EU Regulation 2024/573/EC on fluorinated greenhouse gases
- Stockholm Convention. Substances listed in Annex B: Restriction
- EU Regulation 2019/1021/EC on persistent organic pollutants Annex II, POP
- EU Regulation 649/2012/EC concerning the import and export of hazardous chemicals, PIC
- EU Regulation 1907/2006/EC REACH Annex XVII, entries 2, 4, 5, 12-21, 23, 31, 32, 34-38, 41, 43, 45, 46, 47, 49, 50, 59-63, 70, 71, 74, 76, 80, 81
- EU Directive 2011/65/EU RoHS 2
- EU Regulation 2023/1542/EC on batteries and waste batteries
- EU Regulation 2025/40 on packaging and packaging waste
- Resolution MEPC 379(80) - IMO regulation 2023 Guidelines for the development of the Inventory of Hazardous Materials
- EU Regulation 1257/2013/EC on ship recycling and amending
- EU Regulation 2017/852 on mercury
- US Toxic Substances Control Act Section 6(h): Regulation of Persistent, Bioaccumulative, and Toxic Chemicals Under TSCA Section 6(h)

## Risk Substances

- Stockholm Convention: Proposed POP Candidates
- US Frank Wall Street Reform and Consumer Protection Act, Section 1502
- REACH: Current recommendations for inclusion in the Authorisation List
- REACH: Candidate List of Substances of Very High Concern for Authorisation
- REACH: Proposals to identify Substances of Very High Concern (submitted)
- REACH: Submitted restrictions under consideration (if proposed restriction is applicable to Banned or Restricted categories)
- EU Regulation 2021/821 Dual Use (recast)
- EU Regulation 2024/590/EC on substances that deplete the ozone layer, Annex II

*For detailed information on the specific substances in the above regulations, please request the associated supporting document "AL RSL – individual substances" (document number CRC-22-002 rev 4.0).*

# Changes from previous revision of AL RSL

This revision is the annual major update of Alfa Laval Restricted Substance List. A summary of relevant changes is given below.

## The legislative list, updates

- EU Regulation 1907/2006/EC REACH Annex XVII:
  - Entries 80 and 81 have been added to RSL

Applicable updates to all the listed regulations have been included in the "AL RSL – individual substances" (document number CRC-22-002 rev 4.0).

## Updated information on substances and restrictions

### Banned substances

- Stockholm Convention on persistent organic pollutants (POPs):
  - Added chlorinated paraffins with carbon chain lengths in the range C14-17 and chlorination levels at or exceeding 45 per cent chlorine by weight
  - Added long-chain perfluorocarboxylic acids, their salts and related compounds  $C_nF_{2n+1}CO_2H$  (where  $8 \leq n \leq 20$ )
  - Added chlorpyrifos (Chlorpyrifos-ethyl)
- EU Regulation 2019/1021/EC on persistent organic pollutants Annex I, POPs:
  - Added UV-328, CAS No 25973-55-1
  - Added Dechlorane Plus: CAS 13560-89-9, EC 236-948-9 including its syn- and anti-isomer, CAS 135821-03-3 and CAS 135821-74-8
  - The permitted concentration of tetra-, penta-, hexa-, hepta-, and decabromodiphenyl ether in waste has been reduced
  - The definition of PFOS have been modified by replacing 'Perfluorooctane sulfonic acid and its derivatives' with 'Perfluorooctane sulfonic acid, its salts and related compounds'

### Restricted substances

- REACH Annex XVII (restrictions) - EC 1907/2006 (EU regulation):
  - Two new entries, 80: N,N-Dimethylacetamide (DMAC) CAS No 127-19-5 and 81: 1-Ethylpyrrolidin-2-one (NEP) CAS No 2687-91-4, have been added
- RoHS - 2011/65/EU (EU Directive):
  - Exemptions that allow the use of lead in steel, aluminium, and copper have been revised and there are new expiry dates for these exemptions between 2026 and 2027
- Resolution MEPC 379(80) - IMO regulation:
  - The threshold value for cybutryne has been reduced from 1000 mg/kg to 200 mg/kg in anti fouling paints in the material declaration for wet paint

## Risk substances

- REACH Candidate List of Substances of Very High Concern for Authorisation (SVHC):
  - Added 1,1'-(ethane-1,2-diyl)bis[pentabromobenzene] (DBDPE), CAS 84852-53-9
  - Added n-hexane, CAS 110-54-3
  - Added 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol; (bisphenol AF), CAS 1478-61-1
  - Added 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol, its salts (bisphenol AF and its salts) and reaction mixture formed by the reaction between bisphenol AF and various substances

The following substances have been withdrawn from the list of proposed substances for the REACH Candidate List:

- Formaldehyd (CAS 50-00-0)
  - Barium Chromate (CAS 10294-40-3)
  - 1,1,1,3,5,5,5-heptamethyltrisiloxane (CAS 1873-88-7)
  - Hexamethyldisiloxane (CAS 107-46-0)
  - Dodecamethylpentasiloxane (141-63-9)
- Substances proposed to be added to the Stockholm Convention on persistent organic pollutants (POPs):
    - Bis(2-ethylhexyl) tetrabromophthalate covering any of the individual isomers
    - Polyhalogenated dibenzo-p-dioxins and dibenzofurans
  - Substances proposed to be added to the REACH Annex XIV (authorisations):
    - Barium diboron tetraoxide, CAS 13701-59-2
    - Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide, CAS 75980-60-8
    - S-(tricyclo(5.2.1.0<sup>2,6</sup>)deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate (X4261), CAS 255881-94-8
    - Melamine, CAS 108-78-1
  - Substances withdrawn from the list of proposed substances for the REACH Annex XIV (authorisations):
    - Bis(2-ethylhexyl) tetrabromophthalate (CAS 26040-51-7) covering any of the individual isomers and/or combinations thereof
  - REACH Annex XVII: Current recommendations for inclusion in the Restriction List
    - Chromium(VI) compounds are proposed to be moved from Annex XIV to Annex XVII. These compounds will be prohibited in practice with a few exceptions related to specific use categories.
    - Barium chromate (CAS 10294-40-3)

Applicable updates have been included in the "AL RSL - individual substances" (document number CRC-22-002 rev 4.0).