

Restricted Materials List for World Class Industries Suppliers

Applicability

This list is referenced in World Class Industries Engineering Standard JDM H30. This document describes the restricted substances in subassemblies, parts, materials, components, batteries, merchandise and packaging (referred to as “products” i table below lists the threshold weight percent, any exemptions that may apply to the restriction, and examples of how the substance may be used. The examples given are not all inclusive. This list applies to all products, both direct and indirect, that are designed, manufactured or purchased worldwide either by World Class Industries or a supplier to World Class Industries. This includes, but is not limited to, all products marketed through Portfolio Extensions and Officially Licensed Merchandise.

In addition to the chemical restrictions outlined in this document, chemical restrictions in any applicable World Class Industries Standards shall be complied with (e.g. JDM F13). If this List and a World Class Industries Standard limit the same chemical, the most restrictive limit shall apply.

Compliance with the restrictions in this World Class Industries specific list does not relieve or diminish the obligation to comply with all applicable laws in the country and/or state where a product will be manufactured, imported and/or distributed. This includes, but is not limited to, the following laws:

- RoHS –Restriction of Hazardous Substances
- EU REACH –Registration, Evaluation, and Authorization of Chemicals
 - [Link to EU REACH Substance of Very High Concern \(SVHC\) List \(Candidate List\)](#)
 - [Link to EU REACH Annex XVII](#)
- Consumer Product Laws (e.g. United States Consumer Product Safety Improvement Act)
- WEEE –Waste Electrical and Electronic Equipment
- Battey Restrictions
- Packaging Restrictions
- Other national, state or local laws as applicable

Responsibility

It is the responsibility of the manufacturer, importer and/or distributor to verify that the substances listed in Table 1, or any applicable law, are not in any World Class Industries products at or above mandated thresholds.

Substance/Item	Threshold Weight % (ppm)	Exemptions	Examples/Use
Asbestos (all types)	Not Present (0)		Brake pads, gaskets, clutch plates, parts"
Cadmium and its Compounds in metallic applications	Not Present	Cadmium used in electrical contacts necessary to ensure reliability	metal-plating
Cadmium and its Compounds in non-metallic applications	0.01% (100)		Pigments, batteries, plastics
Lead in Paint and Primer	0.06% (600)		Lacquer, primer, paint
Polychlorinated Biphenyls (PCBs)	Not Present (0)		Capacitors, transformers, lighting ballasts
Chlorinated Hydrocarbons (See Attachment 1)	0.06% (600)		Solvents, adhesives
Arsenic and its Compounds	0.06% (600)		Pesticides, wood preservatives, metal alloys (solders, bearings)
Hexavalent Chromium (Cr ⁺⁶)	0.1% (1000) (Effective date: 2017-01-01)*	unless otherwise stated by part drawing	electroplating of metals; pigments (dyes, paints, inks)
Cyanide and its Compounds	Not Present (0)		Electroplating, metal treatment, insecticides
Ozone Depleting Substances (See Attachment 2)	Not Present (0)		Refrigeration, air conditioning, heat pump systems, solvents, fumigation, biocides
Radioactive Substances	Not Present (above background level)	1. Radioactive substance REQUIRED for part functionality (e.g. luminescent dials) 2. Fire Brick 3. Concrete Blocks 4. Zircon Sand	Uncontrolled material contaminated with natural or man-made radionuclides from industrial processes. Scrap metal, semi-finished metal, metal products

* World Class Industries shall not receive parts containing more than the indicated threshold weight percent of Cr⁺⁶ after 2017-01-01.

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Attachment 1: Listing of Chlorinated Hydrocarbons restricted from finished products
(page 1 of 1)

Substance/Item	Chemical Abstract Service (CAS) Number	Threshold Weight % (ppm)	Exemptions
1,1 Dichloroethylene	75-35-4	0.06% (600)	
Pentachloroethane	76-01-7	0.06% (600)	
Methylene chloride	75-09-2	0.06% (600)	
Tetrachloromethane (Carbon Tetrachloride)	56-23-5	0.06% (600)	
1,1,1,2 Tetrachloroethane	630-20-6	0.06% (600)	
1,1,2,2 Tetrachloroethane	79-34-5	0.06% (600)	
Tetrachloroethylene	127-18-4	0.06% (600)	
Trichloromethane (Chloroform)	67-66-3	0.06% (600)	
1,1,2 Trichloroethane	79-00-5	0.06% (600)	
Trichloroethylene	79-01-6	0.06% (600)	
1,1,1-Trichloroethane (TCA)	71-55-6	0.06% (600)	
Bis (chloromethyl) ether	542-88-1	0.06% (600)	
Pentachlorophenol	87-86-5	0.06% (600)	
Polychlorinated Phenols and their salts	Chemical class; no CAS number assigned	0.06% (600)	

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Attachment 2: Ozone Depleting Substances (ODSs) banned from finished products (page 1 of 4)

Hydrochlorofluorocarbons and Isomers (based on the Montreal Protocol)	Chemical Abstract Service (CAS) Number
Trichlorofluoromethane	75-69-4
Dichlorodifluoromethane (CFC12)	75-71-8
Chlorotrifluoromethane (CFC 13)	75-72-9
Pentachlorofluoroethane (CFC 111)	354-56-3
Tetrachlorodifluoroethane (CFC 112)	76-12-0
Trichlorotrifluoroethane (CFC 113) 1,1,2 Trichloro-1,2,2 trifluoroethane	354-58-5; 76-13-1
Dichlorotetrafluoroethane (CFC 114)	76-14-2
Monochloropentafluoroethane (CFC 115)	76-15-3
Heptachlorofluoropropane (CFC 211)	422-78-6; 135401-87-5
Hexachlorodifluoropropane (CFC 212)	3182-26-1
Pentachlorotrifluoropropane (CFC 213)	2354-06-5; 134237-31-3
Tetrachlorotetrafluoropropane (CFC 214)	29255-31-0
1,1,1,3-Tetrachlorotetrafluoropropane	2268-46-4
Trichloropentafluoropropane (CFC 215)	1599-41-3
1,1,1-Trichloropentafluoropropane	4259-43-2
1,2,3-Trichloropentafluoropropane	76-17-5
Dichlorohexafluoropropane (CFC 216)	661-97-2
Monochloroheptafluoropropane (CFC 217)	422-86-6
Bromochlorodifluoromethane (Halon 1211)	353-59-3
Bromotrifluoromethane (Halon 1301)	75-63-8
Dibromotetrafluoroethane (Halon 2402)	124-73-2
Carbon Tetrachloride (Tetrachloromethane)	56-23-5
1,1,1, - Trichloroethane (methyl chloroform) and its isomers except 1,1,2-trichloroethane	71-55-6
Bromomethane (Methyl Bromide)	74-83-9
Bromodifluoromethane and isomers (HBFCs)	1511-62-2

These materials may contain isomers that are not listed here. Isomers with CAS numbers have been included when available.

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Attachment 2: Ozone Depleting Substances (ODSs) banned from finished products (page 2 of 4)

Hydrochlorofluorocarbons and Isomers (based on the Montreal Protocol)	Chemical Abstract Service (CAS) Number
Dichlorofluoromethane (HCFC 21)	75-43-4
Chlorodifluoromethane (HCFC 22)	75-45-6
Chlorofluoromethane (HCFC 31)	593-70-4
Tetrachlorofluoroethane (HCFC 121)	134237-32-4
1,1,1,2-tetrachloro-2-fluoroethane (HCFC 121a)	354-11-0
1,1,2,2-tetracloro-1-fluoroethane	354-14-3
Trichlorodifluoroethane (HCFC 122)	41834-16-6
1,2,2-trichloro-1,1-difluoroethane	354-21-2
Dichlorotrifluoroethane(HCFC 123)	34077-87-7
Dichloro-1,1,2-trifluoroethane	90454-18-5
2,2-dichloro-1,1,1-trifluoroethane	306-83-2
1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)	354-23-4
1,1-dichloro-1,2,2-trifluoroethane (HCFC-123b)	812-04-4
2,2-dichloro-1,1,2-trifluoroethane (HCFC-123b)	812-04-4
Chlorotetrafluoroethane (HCFC 124)	63938-10-3
2-chloro-1,1,1,2-tetrafluoroethane	2837-89-0
1-chloro-1,1,2,2-tetrafluoroethane (HCFC 124a)	354-25-6
Trichlorofluoroethane (HCFC 131)	27154-33-2;(134237-34-6)
1-Fluoro-1,2,2-trichloroethane	359-28-4
1,1,1-trichloro-2-fluoroethane (HCFC131b)	811-95-0
Dichlorodifluoroethane (HCFC 132)	25915-78-0
1,2-dichloro-1,1-difluoroethane (HCFC 132b)	1649-08-7
1,1-dichloro-1,2-difluoroethane (HCFC 132c)	1842-05-3
1,1-dichloro-2,2-difluoroethane	471-43-2
1,2-dichloro-1,2-difluoroethane	431-06-1
Chlorotrifluoroethane (HCFC 133)	1330-45-6
1-chloro-1,2,2-trifluoroethane	1330-45-6
2-chloro-1,1,1-trifluoroethane (HCFC 133a)	75-88-7
Dichlorofluoroethane(HCFC 141)	1717-00-6; (25167-88-8)
1,1-dichloro-1-fluoroethane (HCFC-141b)	1717-00-6
1,2-dichloro-1-fluoroethane	430-57-9

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Attachment 2: Ozone Depleting Substances (ODSs) banned from finished products (page 3 of 4)

Hydrochlorofluorocarbons and Isomers (based on the Montreal Protocol)	Chemical Abstract Service (CAS) Number
Chlorodifluoroethane (HCFC 142)	25497-29-4
1-chloro-1,1-difluoroethane (HCFC142b)	75-68-3
1-chloro-1,2-difluoroethane (HCFC142a)	25497-29-4
Hexachlorofluoropropane (HCFC 221)	134237-35-7
Pentachlorodifluoropropane (HCFC 222)	134237-36-8
Tetrachlorotrifluoropropane (HCFC 223)	134237-37-9
Trichlorotetrafluoropropane (HCFC 224)	134237-38-0
Dichloropentafluoropropane, (Ethyne, fluoro-) (HCFC 225)	127564-92-5; (2713-09-9)
2,2-Dichloro-1,1,1,3,3-pentafluoropropane(HCFC 225aa)	128903-21-9
2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC 225ba)	422-48-0
1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC 225bb)	422-44-6
3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC 225ca)	422-56-0
1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC 225cb)	507-55-1
1,1-Dichloro-1,2,2,3,3-pentafluoropropane(HCFC 225cc)	13474-88-9
1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC 225da)	431-86-7
1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC 225ea)	136013-79-1
1,1-Dichloro-1,2,3,3,3-pentafluoropropane(HCFC 225eb)	111512-56-2
Chlorohexafluoropropane (HCFC 226)	134308-72-8
Pentachlorofluoropropane (HCFC 231)	134190-48-0
Tetrachlorodifluoropropane (HCFC 232)	134237-39-1
Trichlorotrifluoropropane (HCFC 233)	134237-40-4
1,1,1-Trichloro-3,3,3-trifluoropropane	7125-83-9
Dichlorotetrafluoropropane (HCFC 234)	127564-83-4
Chloropentafluoropropane (HCFC 235)	134237-41-5
1-Chloro-1,1,3,3,3-pentafluoropropane	460-92-4
Tetrachlorofluoropropane (HCFC 241)	134190-49-1

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Attachment 2: Ozone Depleting Substances (ODSs) banned from finished products (page 4 of 4)

Hydrochlorofluorocarbons and Isomers (based on the Montreal Protocol)	Chemical Abstract Service (CAS) Number
Trichlorodifluoropropane (HCFC 242)	134237-42-6
Dichlorotrifluoropropane (HCFC 243)	134237-43-7
1,1-dichloro-1,2,2-trifluoropropane	7125-99-7
2,3-dichloro-1,1,1-trifluoropropane	338-75-0
3,3-Dichloro-1,1,1-trifluoropropane	460-69-5
Chlorotetrafluoropropane (HCFC 244)	134190-50-4
3-chloro-1,1,2,2-tetrafluoropropane	679-85-6
Trichlorofluoropropane (HCFC 251)	134190-51-5
1,1,3-trichloro-1-fluoropropane	818-99-5
Dichlorodifluoropropane (HCFC 252)	134190-52-6
Chlorotrifluoropropane (HCFC 253)	134237-44-8
3-chloro-1,1,1-trifluoropropane (HCFC 253fb)	460-35-5
Dichlorofluoropropane (HCFC 261)	134237-45-9
1,1-dichloro-1-fluoropropane	7799-56-6
Chlorodifluoropropane (HCFC 262)	134190-53-7
2-chloro-1,3-difluoropropane	102738-79-4
Chlorofluoropropane (HCFC 271)	134190-54-8
2-chloro-2-fluoropropane	420-44-0

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