

Occupational Exposure Limits Adopted Based on the 2009 List of Amended ACGIH TLVs

Substance [CAS No.]	Previous WorkSafeBC OELs			2009 Amended OELs			Change	Industrial Application and Use
	TWA	STEL	Notations	TWA	STEL	Notations		
Beryllium and compounds, as Be [7440-41-7], <i>inhalable</i>	0.002 mg/m ³ (total dust)	0.01 mg/m ³ (total dust)	A1, 1	0.00005 mg/m ³	---	Skin, S A1, 1	OEL changed from total dust to inhalable fraction. Skin and sensitizer notations were added.	Beryllium mining and metallurgical processes Electronic ceramic components (circuit boards, laser tubes) Aerospace alloys Electronic beryllium/copper alloys
Bromoform [75-25-2]	0.5 ppm	---	Skin	0.5 ppm	---	---	Skin notation withdrawn	Chemical intermediary Synthesis of pharmaceuticals Solvent for waxes, greases & oils Geological analysis (as a component of high density liquids)
Dibutyl phosphate [107-66-4], <i>inhalable</i>	1.0 ppm (8.6 mg/m ³)	2.0 ppm (17 mg/m ³)		5 mg/m ³ (V)	---	Skin	OEL changed from total dust to inhalable fraction and vapour. Skin notation added.	Organic catalyst in paint industry & manufacturing of phenolic and urea resins and as a plasticizer, anti-foaming agent
Diethanolamine [111-42-2], <i>inhalable</i>	2 mg/m ³	---	Skin	1 mg/m ³ (V)	---	Skin	OEL changed from total dust to inhalable fraction and vapour.	Liquid detergent for emulsion paints, corrosion inhibitor and antimicrobial agent in metal-working fluids, cosmetics, shampoos

Definitions / Notations

- "S" Sensitizer
- "V" Inhalable fraction and vapour
- "Skin" Identifies a substance that contributes significantly to the overall exposure by the skin route (cutaneous absorption)
- A1 "Confirmed human carcinogen" per the ACGIH classification system
- 1 "Carcinogenic to humans" per the International Agency for Research on Cancer ("IARC) classification system

Occupational Exposure Limits Adopted Based on the 2009 List of Amended ACGIH TLVs

Substance [CAS No.]	Previous WorkSafeBC OELs			2009 Amended OELs			Change	Industrial Application and Use
	TWA	STEL	Notations	TWA	STEL	Notations		
Endosulfan [115-29-7], <i>inhalable</i>	0.1 mg/m ³	---	Skin	0.1 mg/m³ (V)	---	Skin	OEL changed from total dust to inhalable and vapour fraction.	Insecticide (still in use)
Ethanol [64-17-5]	1000 ppm	---		---	1000 ppm		TWA withdrawn and STEL added	Widely used in industry in cleaners, antiseptic agents, ink, aerosol sprays, plastics, pharmaceuticals, fuel
Ethyleneimine [151-56-4]	0.5 ppm	---	Skin, 2B	0.05 ppm	0.1 ppm	Skin, 2B	TWA reduced and STEL added.	Intermediary and monomer for oil additive compds, ion exchange resins, coating resins, adhesives, surfactants
Ferbam [14484-64-1], <i>inhalable</i>	10 mg/m ³ (total dust)	---		5 mg/m³	---		OEL changed from total dust to inhalable fraction.	Fungicide (still in use)
Lead arsenate as Pb ₃ (AsO ₄) ₂ [3687-31-8]	0.15 mg/m ³	---	2A, R				Withdrawn OEL as a compound. Lead and arsenic will continue to be listed with its own OELs.	Historical use of lead arsenate pesticides and as plant growth inhibitors
Methyl parathion [298-00-0], <i>inhalable</i>	0.2 mg/m ³	---	Skin	0.02 mg/m³ (V)	---	Skin	OEL changed from total dust to inhalable and vapour fraction.	Broad spectrum insecticide (still in use)
Propyleneimine [75-55-8]	2 ppm	---	Skin	0.2 ppm	0.4 ppm	Skin	TWA reduced and STEL added.	Chemical intermediate in the manufacture of paper, textile, rubber and pharmaceuticals

Definitions / Notations

- “V” Inhalable fraction and vapour
- “R” Reproductive toxin
- “Skin” Identifies a substance that contributes significantly to the overall exposure by the skin route (cutaneous absorption)
- 2A “Probable carcinogenic to humans” per the IARC classification system
- 2B “Possibly carcinogenic to humans” per the IARC classification system

Occupational Exposure Limits Adopted Based on the 2009 List of Amended ACGIH TLVs

Substance [CAS No.]	Previous WorkSafeBC OELs			2009 Amended OELs			Change	Industrial Application and Use
	TWA	STEL	Notations	TWA	STEL	Notations		
Rubber solvent (naptha) [8030-30-6]	TWA 400 ppm	---		See Guideline G5.48-11			OEL Withdrawn; refer to Guideline on Reciprocal Calculation Procedure.	A refined petroleum naphtha solvent Industrial solvent
Sulfur dioxide [7446-09-5]	2 ppm	5 ppm			0.25 ppm		TWA withdrawn and STEL reduced.	Manufacture of sulfuric acid; bleaching agent in pulp & paper manufacture; waste water treatment; by-product of non-ferrous smelting (e.g. aluminum, lead-zinc smelting) By-product of coal/oil burning for electric power generators
Sulprofos [35400-43-2], <i>inhalable</i>	1 mg/m ³	---		0.1 mg/m ³ (V)	---	Skin	OEL changed from total dust to inhalable fraction and vapour. Skin notation added.	Insecticide Trade name: Bolstar, Helothion No longer registered nor used
VM & P naphtha [8032-32-4]	350 mg/m ³	---		See Guideline G5.48-11	---		OEL withdrawn; refer to Guideline on Reciprocal Calculation Procedure.	A refined petroleum naphtha solvent Industrial solvent

Definitions / Notations

- "V" Inhalable fraction and vapour
- "Skin" Identifies a substance that contributes significantly to the overall exposure by the skin route (cutaneous absorption)

**Proposed to Delist Substance from the Table of OELs for Excluded Substances in
Policy R5.48-1 and Adopt the ACGIH TLV ***

Excluded Substance [CAS No.]	Current WorkSafeBC OEL As listed in Prevention Policy Item R5.48-1			Proposed Occupational Exposure Limit (OEL) *			Proposed Change	Industrial Application and Use
	TWA	Ceiling ("C")	Notations	TWA	Ceiling ("C")	Notations		
Vanadium pentoxide, <i>respirable dust and fume, as V₂O₅</i> [1314-62-1]	---	0.05 mg/m ³	2B				Withdraw; replace by "Vanadium pentoxide, as V, <i>inhalable</i> "	Oil-fired burners operation Production of phosphate Metallurgical by-product Catalyst for various products Ceramic, glass colourant
Vanadium pentoxide, <i>total dust, as V₂O₅</i> [1314-62-1]	0.2 mg/m ³	---	2B				Withdraw; replace by "Vanadium pentoxide, as V, <i>inhalable</i> "	
Vanadium pentoxide, as V [1314-62-1] <i>Inhalable</i>				0.05 mg/m³		2B	OEL for inhalable fraction.	

2B IARC Classification – Possibly carcinogenic to humans

* **Note:** Currently the OEL for this substance is listed in the Table of OELs for Excluded Substances under Prevention Policy Item R5.48-1, as a "made-in-BC" OEL. WorkSafeBC is proposing to delist vanadium pentoxide from the Table and adopt the more protective ACGIH TLV.