

GreenScreen™ for Safer Chemicals

Version 1.2 Criteria

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Carcinogenicity (C)	Information Type	Information Source	List Type	High (H)	Moderate (M)	Low (L)
	Data	GHS Criteria & Guidance			GHS Category 1A (Known) or 1B (Presumed) for any route of exposure	GHS Category 2 (Suspected) for any route of exposure or limited or marginal evidence of carcinogenicity in animals (See Guidance)
A Lists	EPA-C (1986)	Authoritative		Group A, B1 or B2	Group C	Group E
	EPA-C (1996, 1999, 2005)	Authoritative		Known or Likely		Not Likely
	EU CMR (1)	Authoritative		Category 1 or 2	Category 3	
	EU CMR (2)	Authoritative		Carc 1A or 1B	Carc 2	
	EU H-statements	Authoritative		H350 or H350i	H351	
	EU R-phrases	Authoritative		R45 or R49	R40	
	EU SVHC	Authoritative		Reason for inclusion: Carcinogenic		
	IARC	Authoritative		Group 1 or 2A	Group 2B	Group 4
	MAK	Authoritative		Carcinogenic Group 1 or 2	Carcinogenic Group 3, 4, or 5	
	NIOSH-C	Authoritative		Occupational Cancer		
	NTP-RoC	Authoritative		Known or Reasonably Anticipated		
	Prop 65	Authoritative		Known to the state to cause cancer		
	B Lists	EPA-C(1986)	Authoritative		Group D	
EPA-C (1999)		Authoritative		Suggestive Evidence, but not sufficient to assess human carcinogenic potential		
EPA-C (2005)		Authoritative		Suggestive evidence of carcinogenic potential		
IARC		Authoritative		Group 3		
Mutagenicity/Genotoxicity (M)	Information Type	Information Source	List Type	High (H)	Moderate (M)	Low (L)
	Data	GHS Criteria & Guidance		GHS Category 1A (Known) or 1B (Presumed) for any route of exposure	GHS Category 2 (Suspected) for any route of exposure or limited or marginal evidence of mutagenicity in animals (See Guidance)	Adequate data available, and negative studies for both chromosomal aberrations and gene mutations, no structural alerts, and GHS not classified.
A Lists	EU CMR (1)	Authoritative		Category 1 or 2	Category 3	
	EU CMR (2)	Authoritative		Muta 1A or 1B	Muta 2	
	EU H-statements	Authoritative		H340	H341	
	EU R-phrases	Authoritative		R46	R68	
	EU SVHC	Authoritative		Reason for inclusion: Mutagenic		
B Lists	MAK	Authoritative		Germ Cell Mutagen 1, 2, or 3a		
	MAK	Authoritative		Germ Cell Mutagen 3b or 5		

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Reproductive Toxicity (R)	Information Type	Information Source	List Type		High (H)	Moderate (M)	Low (L)	
	Data	GHS Criteria & Guidance <i>Note: GHS Reproductive Toxicity includes both reproductive and developmental effects, while the Green Screen separates them into two distinct hazard endpoints. This classification must be based on reproductive effects alone.</i>				GHS Category 1A (Known) or 1B (Presumed) for any route of exposure	GHS Category 2 (Suspected) for any route of exposure or limited or marginal evidence of reproductive toxicity in animals (See Guidance)	Adequate data available, and negative, no structural alerts, and GHS not classified.
A Lists	EU H-statements	Authoritative			H360F, H360FD, H360Fd	H360Df, H361f, H361fd		
	EU R-phrases	Authoritative			R60	R62		
	NTP-OHAaT	Authoritative			Clear Evidence of Adverse Effects - Reproductive		Clear Evidence of No Adverse Effects - Reproductive	
	Prop 65	Authoritative			Known to the state to cause reproductive effects-Male or Female			
B Lists	NTP-OHAaT	Authoritative			Limited Evidence of Adverse Effects - Reproductive or Some Evidence of Adverse Effects - Reproductive			
					Limited Evidence of No Adverse Effects - Reproductive or Some Evidence of No Adverse Effects - Reproductive			
					Insufficient Evidence for a Conclusion - Reproductive Toxicity			
Developmental Toxicity (D)	Information Type	Information Source	List Type		High (H)	Moderate (M)	Low (L)	
	Data	GHS Criteria & Guidance <i>Note: GHS Reproductive Toxicity includes both reproductive and developmental effects, while the Green Screen separates them into two distinct hazard endpoints. This classification must be based on developmental effects alone.</i>			GHS Category 1A (Known) or 1B (Presumed) for any route of exposure	GHS Category 2 (Suspected) for any route of exposure or limited or marginal evidence of developmental toxicity in animals (See Guidance)	Adequate data available, and negative, no structural alerts, and GHS not classified.	
A Lists	EU H-statements	Authoritative			H360FD, H360D, H360Df, or H362	H360Fd, H361d, H361fd		
	EU R-phrases	Authoritative			R61 or R64	R63		
	NTP-OHAaT	Authoritative			Clear Evidence of Adverse Effects - Developmental		Clear Evidence of No Adverse Effects - Developmental	
	Prop 65	Authoritative			Known to the state to cause developmental effects			
B Lists	G&L	Screening			Developmental Neurotoxicant			
	Boyes-N	Screening			Developmental Neurotoxicity Effects			
	MAK	Authoritative			Pregnancy Risk Group A or B			
					Pregnancy Risk Group C			
					Pregnancy Risk Group D			
	NTP-OHAaT	Authoritative			Limited Evidence of Adverse Effects - Developmental or Some Evidence of Adverse Effects - Developmental			
				Limited Evidence of No Adverse Effects - Reproductive or Some Evidence of No Adverse Effects - Developmental				
				Insufficient Evidence for a Conclusion - Developmental Toxicity				
Endocrine Activity (E)	Information Type	Information Source	List Type		High (H)	Moderate (M)	Low (L)	
	Data	All Available Data			Evidence of endocrine activity and related human health effect.	Evidence of endocrine activity.	Adequate data available, and negative studies, and no structural alerts.	
A Lists	EU ED	Screening					Category 3a	
	EU SVHC	Authoritative			Reason for Inclusion: Endocrine Activity			
B Lists	EU ED	Screening			Category 1 or 2			
	OSPAR	Screening			Category 3b			
	SIN	Screening			Endocrine Disruptor			
	TEDX	Screening			Reason for Inclusion: Endocrine Disruptor			
					Listed on the TEDX List of Potential Endocrine Disruptors			

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Acute Mammalian Toxicity (AT)		Information Type	Information Source	List Type	Very High (vH)	High (H)	Moderate (M)	Low (L)	
		Data	GHS Criteria & Guidance			GHS Category 1 or 2 for any route of exposure	GHS Category 3 for any route of exposure	GHS Category 4 for any route of exposure	GHS Category 5 or adequate data available, and negative studies, no structural alerts, and GHS not classified.
Guidance Values for Animal Data (see GHS for further information)	Oral LD ₅₀ (mg/kg)			≤50	>50-300	>300 - 2000	>2000		
	Dermal LD ₅₀ (mg/kg)			≤200	>200-1000	>100 - 2000	>2000		
	Inhalation-Gas or Vapor LD ₅₀ (mg/L)			≤2	>2-10	>10 - 20	>20		
	Inhalation-Dust/Mist/Fumes LD ₅₀ (mg/L)			≤0.5	>0.5-1.0	>1 - 5	>5		
A Lists	DOT	Authoritative		Class 2.3 Group A, or Class 6.1 Group 1 or Group 2	Class 6.1 Group 3				
	EU H-statements	Authoritative		H300, H310, or H330	H301, H311, or H331	H302, H312, or H332	H303, H313, or H333		
	EU R-phrases	Authoritative		R26, R27 or R28					
B Lists	DOT	Authoritative		Class 2.3 Group B	Class 2.3 Group C		Class 2.3 Group D		
	EPA-AMT	Authoritative		Extremely Hazardous Substance					
	EU H-statements	Authoritative		H111					
	EU R-phrases	Authoritative			R20, R21, or R22				
					R23, R24, or R25				
	WHMIS	Screening		D1A Toxic					
					D1B Toxic				
Systemic Toxicity/Organ Effects (ST)		Information Type	Information Source		Very High (vH)	High (H)	Moderate (M)	Low (L)	
		Data	GHS Criteria & Guidance			GHS Category 1 Single Exposure for any route of exposure	GHS Category 2 Single Exposure for any route of exposure	GHS Category 3 Single Exposure for any route of exposure	Adequate data available, and negative studies, no structural alerts, and GHS not classified
GHS Guidance Values for Animal Data (see GHS for further information)	Oral (mg/kg-bw)			≤300	>300-2000				
	Dermal (mg/kg-bw)			≤1000	>1000-2000				
	Inhalation-Gas or Vapor (mg/L/4h)			≤10	>10-20				
	Inhalation-Dust/Mist/Fumes (mg/L/4h)			≤1.0	>1.0-5.0				
A Lists	EU H-statements	Authoritative		H370	H371	H335			
	EU R-phrases	Authoritative		R39, R39/23, R39/24, or R39/25, R39/26, R39/27, R39/28	R68/20, R68/21, or R68/22,	R37			
Data	GHS Criteria & Guidance				GHS Category 1 Repeated Exposure for any route of exposure	GHS Category 2 Repeated Exposure for any route of exposure	Adequate data available, and negative studies, no structural alerts, and GHS not classified		
GHS Guidance Values for Animal Data (see GHS for further information)	Oral (mg/kg-bw/day)				≤10	>10-100	>100		
	Dermal (mg/kg-bw/day)				≤20	>20-200	>200		
	Inhalation-Gas or Vapor (mg/L/6h/day)				≤0.2	>0.2-1.0	>1.0		
	Inhalation-Dust/Mist/Fumes (mg/L/6h/day)				≤0.02	>0.02-0.2	>0.2		
A Lists	EU H-statements	Authoritative			H372	H373			
	EU R-phrases	Authoritative			R48/23, R48/24, R48/25	R48/20, R48/21, R48/22			
B Lists	EU H-statements	Authoritative				R48			

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Neurotoxicity (N)	Information Type	Information Source	List Type	Very High (vH)	High (H)	Moderate (M)	Low (L)		
Single	Data	GHS Criteria Systemic Toxicity/Organ Effects using USEPA Risk Assessment Guidance to define applicable neurotoxic effects.		GHS Category 1 Single Exposure for any route of exposure	GHS Category 2 Single Exposure for any route of exposure	GHS Category 3 Single Exposure for any route of exposure	Adequate data available, and negative studies, no structural alerts, and GHS not classified		
	Data	GHS Criteria Systemic Toxicity/Organ Effects using USEPA Risk Assessment Guidance to define applicable neurotoxic effects.			GHS Category 1 Repeated Exposure for any route of exposure	GHS Category 2 Repeated Exposure for any route of exposure	Adequate data available, and negative studies, no structural alerts, and GHS not classified		
	Both	B Lists	EU H-statements	Authoritative				H336	
			EU R-phrases	Authoritative				R67	
				Listed for Neurotoxic Effects					
				Neurotoxicant					
Skin Sensitization (SnS)	Data	GHS Criteria & Guidance			GHS Category 1A (high frequency of occurrence)	GHS Category 1B (low to moderate frequency of occurrence)	Adequate data available, and negative studies, no structural alerts, and GHS not classified.		
	A Lists	MAK	Authoritative		Sensitizing Substances Sa (Respiratory) or Sah (Respiratory and Skin)				
	B Lists	EU H-statements	Authoritative		H317				
		EU R-phrases	Authoritative		R43				
Respiratory Sensitization (SnR)	Information Type	Information Source			High (H)	Moderate (M)	Low (L)		
	Data	GHS Criteria & Guidance			GHS Category 1A (high frequency of occurrence)	GHS Category 1B (low to moderate frequency of occurrence)	Adequate data available, and negative studies, no structural alerts, and GHS not classified.		
	A Lists	MAK	Authoritative		Sensitizing Substances Sa (Respiratory) or Sah (Respiratory and Skin)				
	B Lists	AOEC	Authoritative		Asthmagen (G)				
		EU H-statements	Authoritative		Asthmagen (Rr) and/ or (Rs) and/or (Rrs)				
EU R-phrases	Authoritative			H334					
					R42				
Skin Irritation (IrS)	Information Type	Information Source		Very High (vH)	High (H)	Moderate (M)	Low (L)		
	Data	GHS Criteria & Guidance		GHS Category 1 (Corrosive)	GHS Category 2 (Irritant)	GHS Category 3 (Mild irritant)	Adequate data available, and negative studies, no structural alerts, and GHS not classified.		
	A Lists	DOT	Authoritative		Class 8				
		EU H-statements	Authoritative		H314	H315	H316		
EU R-phrases	Authoritative			R34 or R35		R38			
Eye Irritation (IrE)	Information Type	Information Source		Very High (vH)	High (H)	Moderate (M)	Low (L)		
	Data	GHS Criteria & Guidance		GHS Category 1 (Irreversible)	GHS Category 2A (Irritating)	GHS Category 2B (Mildly irritating)	Adequate data available, and negative studies, no structural alerts, and GHS not classified.		
	A Lists	EU H-statements	Authoritative		H318	H319	H320		
		EU R-phrases	Authoritative		R41				
B Lists	EU R-phrases	Authoritative		R36					

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Acute Aquatic Toxicity (AA)	Information Type	Measurement		Very High (vH)	High (H)	Moderate (M)	Low (L)	
	Data	GHS Criteria & Guidance		GHS Category 1	GHS Category 2	GHS Category 3	Sufficient data available and not classified	
	Guidance Values (see GHS for further information)	LC ₅₀ or EC ₅₀ (mg/L)		≤1	>1 to 10	> 10 to 100	>100	
	A Lists	EU H-statements EU R-phrases	Authoritative Authoritative	H400 R50	H401 R51	H402 R52		
B Lists	DSL	Screening	<i>iT non-human</i> <small>Note: Could be based on acute or chronic aquatic toxicity. Only assess here if the classification is based on acute aquatic toxicity.</small>					
Chronic Aquatic Toxicity (CA)	Information Type	Measurement		Very High (vH)	High (H)	Moderate (M)	Low (L)	
	Data	GHS Criteria & Guidance Guidance Value (mg/L)		≤0.1	>0.1 to 1.0	GHS Category 4 > 1.0 to 10	>10	
	A Lists	EU H-statements EU R-phrases				H413 R53		
	B Lists	DSL		<i>iT non-human</i> <small>Note: Could be based on acute or chronic aquatic toxicity. Only assess here if the classification is based on chronic aquatic toxicity.</small>				
Persistence (P)	Information Type	Media & Measurement	List Type	Very High (vH)	High (H)	Moderate (M)	Low (L)	Very Low (vL)
	Data	Soil or Sediment (1/2 life in days OR Result)		>180 or recalcitrant	>60 to 180	16 to 60	< 16 OR GHS "Rapid degradability"	Meets 10-day window in "Ready Biodegradation"
		Water (1/2 life in days OR Result)		> 60 or recalcitrant	> 40 to 60	16 to 40	< 16 OR GHS "Rapid degradability"	Meets 10-day window in "Ready Biodegradation Test"
		Air (1/2 life in days OR Result)		> 5 or recalcitrant	>2 to 5		< 2	
		Long-Range Environmental Transport			Evidence	Suggestive Evidence		
B Lists	DSL	Screening	Persistent (P)					
Bioaccumulation Potential (B)	Information Type	Measurement		Very High (vH)	High (H)	Moderate (M)	Low (L)	Very Low (vL)
	Data	BAF (Bioaccumulation Factor)		> 5000	> 1000 to 5000	> 500 to 1000	> 100 to 500	≤ 100
		BCF (Bioconcentration Factor)		> 5000	> 1000 to 5000	> 500 to 1000	> 100 to 500	≤ 100
		Log Kow (Log octanol-water partition coefficient)		> 5.0	> 4.5 to 5.0	> 4.0 to 4.5		≤ 4
		Monitoring Data (Presence in humans or wildlife)			Evidence	Suggestive Evidence		
A Lists	DSL	Screening	Bioaccumulative (B)					

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Information Type	Measurement	List Type	Very High (vH)	High (H)	Moderate (M)	Low (L)	
Reactivity (Rx)	Data - GHS Criteria & Guidance	Explosives	GHS Unstable	GHS Division 1.1, 1.2, or 1.3	GHS Division 1.4 or 1.5	Division 1.6 or Adequate data available and GHS not Classified	
		Self-reactive Substances	GHS Type A or B	GHS Type C or D	GHS Type E or F	Type G or Adequate data available and GHS not Classified	
		Substances which on contact with water emit flammable gases	GHS Category 1	GHS Category 2	GHS Category 3	Adequate data available and GHS not Classified	
		Oxidizing Gases		GHS Category 1		Adequate data available and GHS not Classified	
		Oxidizing Liquids and Solids	GHS Category 1	GHS Category 2	GHS Category 3	Adequate data available and GHS not Classified	
		Organic Peroxides	GHS Type A or B	GHS Type C or D	GHS Type E or F	Type G or Adequate data available and GHS not Classified	
		Self-heating Substances		GHS Category 1	GHS Category 2	Adequate data available and GHS not Classified	
		Substances Corrosive to Metal			GHS Category 1	Adequate data available and GHS not Classified	
	A Lists	DOT	Authoritative		Class 1 Group 1.1, 1.2, or 1.3	Class 1 Group 1.4, 1.5, or 1.6	
				Class 4.3 Group 1	Class 4.2 Group 2	Class 4.2 Group 3	
				Class 5.1 Group 1	Class 4.3 Group 2	Class 4.3 Group 3	
				Class 5.2 Type B	Class 5.1 Group 2	Class 5.1 Group 3	
		EU H-statements	Authoritative	H200, H240, H241, H260, H271	H201, H202, H203, H251, H270	H204, H205, H252, H290	Class 5.2 Type G
	EU R-phrases	Authoritative	R09				
B Lists	DOT	Authoritative	Class 4.1, Class 5.2 Type A				
	EU H-statements	Authoritative	H261, H272				
	EU R-phrases	Authoritative	H242				
	WHMIS	Screening	R01, R06, R07, R15				
Flammability (F)	Data - GHS Criteria & Guidance	Flammable Liquid	GHS Category 1	GHS Category 2	GHS Category 3 or 4	Adequate data available and GHS not Classified	
		Flammable Gases (including chemically unstable gases)		GHS Category 1	GHS Category 2 or GHS Category A	GHS Category B or Adequate data available and GHS not Classified	
		Flammable Solids		GHS Category 1	GHS Category 2	Adequate data available and GHS not Classified	
		Aerosols		GHS Category 1	GHS Category 2	GHS Category 3 or Adequate data available and GHS not Classified	
		Pyrophoric Liquids		GHS Category 1		Adequate data available and GHS not Classified	
		Pyrophoric Solids		GHS Category 1		Adequate data available and GHS not Classified	
	A Lists	DOT	Authoritative	Class 3 Group 1	Class 3 Group 2 or Class 4.2 Group 1	Class 3 Group 3	
		EU H-statements	Authoritative	H224	H220, H222, H225, H250	H221, H223, H226, H227, H230	
		EU R-phrases	Authoritative		R17		
		WHMIS	Screening		B1	B3	
	B Lists	DOT	Authoritative	Class 2.1			
		EU H-statements	Authoritative	H228			
		EU R-phrases	Authoritative	R10 (Gas or Solid), R11 (Solid)			
				R10 (Liquid only)			
R11 (Liquid only)							
WHMIS		Authoritative		R12 (Gas only)			
			B4 or B5				
			B2				