

The following Risk Characterization of MDIs include the following substances

Substance	Name	CAS No	EC/ECHA No
4,4'-MDI	4,4'-methylenediphenyl diisocyanate	101-68-8	202-966-0
2,4'-MDI	o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	227-534-9
MDI mixed Isomers	Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate		@905-806-4
	1,1'-methylenebis(isocyanatobenzene)	26447-40-5	247-714-0
Oligomeric MDI	Formaldehyde, oligomeric reaction products with aniline and phosgene	32055-14-4	500-079-6
MDI Homopolymer	4,4'-Methylenediphenyl diisocyanate, oligomeric reaction products with 2,4'-diisocyanatodiphenylmethane	109331-54-6	500-297-1
	4,4'-(and 2,4'-)Methylenediphenyl diisocyanate, oligomers	25686-28-6	500-040-3
	Reaction mass of 4,4'-Methylenediphenyl diisocyanate, oligomers and 4,4'-methylenediphenyl diisocyanate		@905-845-7
MDI-DPG	4,4'-Methylenediphenyl diisocyanate, oligomeric reaction products with oxydipropanol	59952-43-1	500-142-8
	4,4'-Methylenediphenyl diisocyanate, oligomeric reaction products with 2,4'-diisocyanatodiphenylmethane and oxydipropanol (merged to CAS# 59952-43-1, NLP 500-142-8, only one dossier generated)	88288-99-7	500-270-4
MDI-TPG	4,4'-Methylenediphenyl diisocyanate, oligomeric reaction products with [(methylethylene)bis(oxy)]dipropanol	52747-01-0	500-119-2
	4,4'-Methylenediphenyl diisocyanate, oligomeric reaction products with 2,4'-diisocyanatodiphenylmethane and [(methylethylene)bis(oxy)]dipropanol	75880-28-3	500-262-0
MDI/MDI Homopolymer/1,3-BD/TPG/PG	4,4'-Methylenediphenyl diisocyanate, oligomeric reaction products with butane-1,3-diol, 2,4'-diisocyanatodiphenylmethane, 1,1'-methylenebis(4-isocyanatobenzene) homopolymer, [(methylethylene)bis(oxy)]dipropanol and propane-1,2-diol		500-313-7
MDI/1,3-BD/TPG/PG	4,4'-Methylenediphenyl diisocyanate, oligomeric reaction products with butane-1,3-diol, 2,4'-diisocyanatodiphenylmethane, [(methylethylene) bis(oxy) ]dipropanol and propane-1,2-diol	123714-19-2	500-312-1

Please notice, the OELs (Occupational Exposure Limits) remain in force parallel to the following PNECs and DN(M)ELs

**PNEC = Predicted No Effect Concentration**

**DN(M)EL = Derived No (Minimal) Effect Level**

Polymeric raw materials like PMDI, many polyols and pre-polymers do not have exposure scenarios because of an exemption provided by the regulator.

In the context of site-safety and for responsible care reasons, we advise to treat classified pMDI as well as classified pre-polymers made with the a.m. MDIs like these isocyanates.

The risk characterization of MDI has been conducted based on the PNECs and DN(M)ELs in the following tables.

Compartments	PNEC
Freshwater (mg/l)	1
Marine water (mg/l)	0.1
Soil (mg/kg ww)	1
Sewage Treatment plant	1

DNELs for workers	DNEL
Route	DNEL
<b>Acute - systemic effects</b>	
Inhalation (mg/m3)	0.1
Dermal (mg/kg bw/day)	50
<b>Acute - local effects</b>	
Inhalation (mg/m3)	0.1
Dermal (mg/cm2)	28.7
<b>Long-term - systemic effects</b>	
Dermal (mg/kg bw/day)	n.d.
Inhalation (mg/m3)	0.05
<b>Long-term - local effects</b>	
Dermal (mg/cm2)	n.d.
Inhalation (mg/m3)	0.05

DN(M)ELs for general population	
Route	DN(M)EL
<b>Acute - systemic effects</b>	
Inhalation (mg/m3)	0.05
Dermal (mg/kg bw/day)	25
Oral (mg/kg bw/day)	20
<b>Acute - local effects</b>	
Inhalation (mg/m3)	0.05
Dermal (mg/cm2)	17.2
<b>Long-term - systemic effects</b>	
Dermal (mg/kg bw/day)	n.d.
Inhalation (mg/m3)	0.025
Oral (mg/kg bw/day)	n.d.
<b>Long-term - local effects</b>	
Dermal (mg/kg bw/day)	n.d.
Inhalation (mg/m3)	0.025
Oral (mg/kg bw/day)	n.d.

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