

Summary of Generic Concentration Limits (GCLs), Specific Concentration Limits (SCLs), and M-factors for Nickel Substances Registered Under REACH

Substance	Ni metal ³	Ni oxide	Ni subsulphide	Ni sulphide	Ni dihydroxide	Ni hydroxycarbonate	Ni sulphate	Ni acetate	Ni sulphamate	Ni chloride	Ni nitrate	Ni matte	Ni BP
Acute toxicity (all routes)	NC	NC	Not applicable ^{1,4}	Not applicable ^{1,4}	Not applicable ¹	Not applicable ¹	Not applicable ¹	Not applicable ¹	Not applicable ^{1,4}	Not applicable ¹	Not applicable ¹	NC	Not applicable ^{1,5}
Skin corrosion/Skin irritation	NC	NC	NC	NC	GCL ≥10%	GCL ≥10%	SCL (≥20%)	NC	NC	SCL (≥20%)	SCL (≥20%)	NC	GCL (≥5%) ⁶
Serious eye damage/Eye irritation	NC	NC	NC	NC	NC	GCL (≥10%) ⁴	NC	NC	NC	NC	GCL (Cat 1: ≥3%, Cat. 2: 1%≤conc<3%)	NC	GCL (Cat 1: ≥3%, Cat. 2: 1%≤conc<3%) ⁶
Skin sensitization	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	SCL (≥0.01%)	SCL (≥0.01%)	SCL (≥0.01%)	SCL (≥0.01%)	SCL (≥0.01%)	GCL (≥1%)	SCL (≥0.01%) ⁵
Respiratory sensitization	NC	NC	NC	NC	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	NC	GCL (≥1%)
STOT-repeated	GCL (Cat 1: ≥10%, Cat 2: 1%≤conc.<10%)	GCL (Cat 1: ≥10%, Cat 2: 1%≤conc.<10%)	GCL (Cat 1: ≥10%, Cat 2: 1%≤conc.<10%)	GCL (Cat 1: ≥10%, Cat 2: 1%≤conc.<10%)	GCL (Cat 1: ≥10%, Cat 2: 1%≤conc.<10%)	GCL (Cat 1: ≥10%, Cat 2: 1%≤conc.<10%)	SCL (Cat 1: ≥1%, Cat 2: 0.1%≤conc.<1%)	SCL (Cat 1: ≥1%, Cat 2: 0.1%≤conc.<1%)	SCL (Cat 1: ≥1%, Cat 2: 0.1%≤conc.<1%)	SCL (Cat 1: ≥1%, Cat 2: 0.1%≤conc.<1%)	SCL (Cat 1: ≥1%, Cat 2: 0.1%≤conc.<1%)	GCL (Cat 1: ≥10%, Cat 2: 1%≤conc.<10%)	SCL (Cat 1: ≥1%, Cat 2: 0.1%≤conc.<1%) ⁵
STOT-single	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Mutagenicity	NC	NC	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	GCL (≥1%)	NC	GCL (≥1%) ⁵
Carcinogenicity	GCL (≥1%)	GCL (≥0.1%)	GCL (≥0.1%)	GCL (≥0.1%)	GCL (≥0.1%)	GCL (≥0.1%)	GCL (≥0.1%)	GCL (≥0.1%)	GCL (≥0.1%)	GCL (≥0.1%)	GCL (≥0.1%)	GCL (≥0.1%)	GCL (≥0.1%)
Reproductive toxicity	NC	NC	NC	NC	GCL (≥0.3%)	GCL (≥0.3%)	GCL (≥0.3%)	GCL (≥0.3%)	GCL (≥0.3%)	GCL (≥0.3%)	GCL (≥0.3%)	NC	GCL (≥0.3%) ⁵
Aquatic toxicity M factors (acute)²	None	None	1	1	1	1	1	1	1	1	1	1	1
Aquatic toxicity M factor (chronic)²	None	None	1	1	1	1	1	1	1	1	1	1	1

¹ Acute toxicity of mixtures is determined using the additivity formula (see below), not generic or specific concentration limits.

² M-factors assume rapid degradation

³ powder is <1 mm and massive is ≥1 mm equivalent spherical diameter

⁴Self-classification based on substance-specific data

⁵Self-classification based on read-across

⁶Self-classification due to phosphoric acid component

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NC = Not classified

GCL = Generic Concentration Limit applies since no specific concentration limit has been set for that substance for that endpoint based on the classification category

SCL = Specific Concentration Limit as harmonized under CLP REGULATION (EC) 1272/2008 amended by COMMISSION REGULATION (EC) No 790/2009 or derived based on criteria defined since harmonization

Blue = Concentration limit harmonized under CLP

Additivity formula

$$\frac{100}{ATE_{mix}} = \sum_{i=1}^n \frac{C_i}{ATE_i}$$

where:

C_i = concentration of ingredient i (% w/w or % v/v)

i = the individual ingredient from 1 to n

n = the number of ingredients

ATE_i = Acute Toxicity Estimate of ingredient i .