

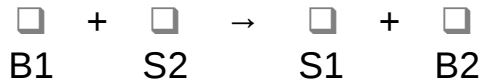
# Summenformelgleichungen mit mit LibreOffice Math setzen

Formel **einfügen** mit:  
Alt+E > J > F

Prinzip: Donator-Akzeptor-Reaktionen werden als Matrix-Formel umgesetzt und somit am Reaktionspfeil ausgerichtet.

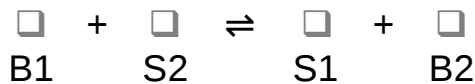
Feldtrenner: #  
Zeilentrenner: ##

## Säure-Base-Reaktion:



```
matrix {
<?> # "+" # <?> # → # <?> # "+" # <?>
##
"B1" # " " # "S2" # " " # "S1" # " " # "B2"
}
```

Säure-Base-Reaktion mit Gleichgewichtspfeil:

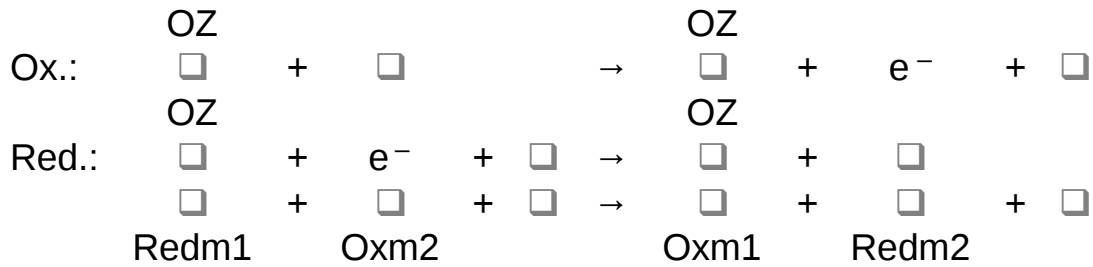


```
matrix {
<?> # "+" # <?> # = # <?> # "+" # <?>
##
"B1" # " " # "S2" # " " # "S1" # " " # "B2"
}
```

## Redox-Gleichung:

Gesamttabelle mit Ladungs- und Stoffausgleich

	1	2	3	4	5	6	7	8	9	10	11	12
1		OZ						OZ				
2	Ox.:	Redm1	+	LA/SO			→	Oxm1	+	e <sup>-</sup>	+	LA/SO
3		OZ						OZ				
4	Red.:	Oxm2	+	e <sup>-</sup>	+	LA/SO	→	Redm2	+	LA/SO		
5												
6		Redm1	+	Oxm2	+	LA/SA	→	Oxm1	+	Redm2	+	LA/SO
7		Redm1		Oxm2				Oxm1		Redm2		



```

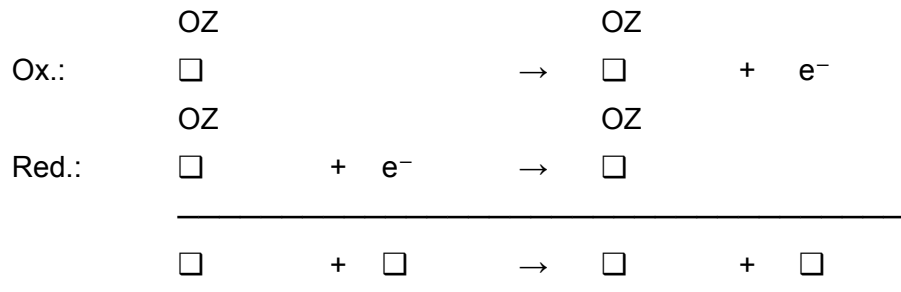
matrix {
" " # OZ # " " # " " # " " # " " # OZ # " " # " " # " " # " "
##
"Ox.:" # <?> # "+" # <?> # " " # " " # → # <?> # "+" # e- # "+" # <?>
##
" " # OZ # " " # " " # " " # " " # " " # OZ # " " # " " # " " # " "
##
"Red.:" # <?> # "+" # e- # "+" # <?> # → # <?> # "+" # <?> # " " # " "
##
" " # <?> # "+" # <?> # "+" # <?> # → # <?> # "+" # <?> # "+" # <?>
##
" " # "Redm1" # " " # "Oxm2" # " " # " " # " " # "Oxm1" # " " # "Redm2" # " " # " "
}

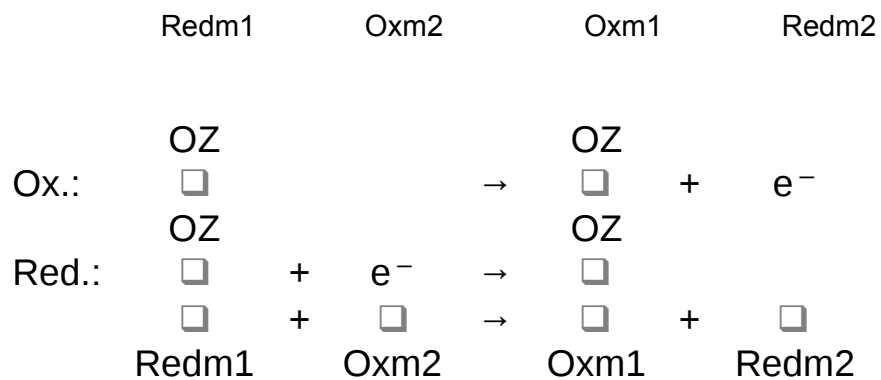
```

**Einfache Redoxgleichung (Salzbildung):**

Gesamttabelle ohne Ladungs- und Stoffausgleich

	1	2	3	4	5	6	7	8
1		OZ				OZ		
2	Ox.:	Redm1			→	Oxm1	+	e <sup>-</sup>
3		OZ				OZ		
4	Red.:	Oxm2	+	e <sup>-</sup>	→	Redm2		
5		<hr/>						
6		Redm1	+	Oxm2	→	Oxm1	+	Redm2
7		Redm1		Oxm2		Oxm1		Redm2





```

matrix {
" " # 0Z # " " # " " # " " # 0Z # " " # " "
##
"Ox.:" # <?> # " " # " " # → # <?> # "+" # e-
##
" " # 0Z # " " # " " # " " # 0Z # " " # " "
##
"Red.:" # <?> # "+" # e- # → # <?> # " " # " "
##
" " # <?> # "+" # <?> # → # <?> # "+" # <?>
##
" " # "Redm1" # " " # "Oxm2" # " " # "Oxm1" # " " # "Redm2"
}

```