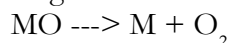


REACTIEPATRONEN ANORGANISCHE STOFKLASSEN

1. METALEN

Bereiding

1. Vorming van een metaal:

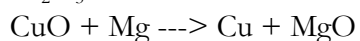
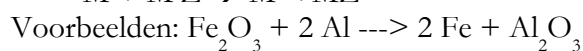
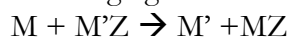


a. Ontleding van een metaaloxide

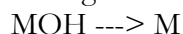
T



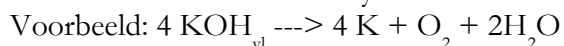
b. Verdringingsreactie



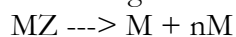
2. Vorming van een metaal



smeltelektrolyse

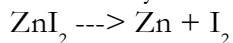


3. Ontleding van binaire zouten



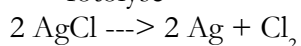
Voorbeelden: elektrolyse van zinkdijodide (smelt of oplossing)

elektrolyse



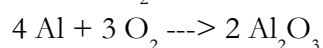
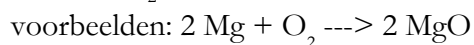
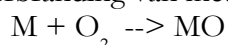
de fotolyse van zilverchloride

fotolyse

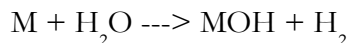


Chemische eigenschappen

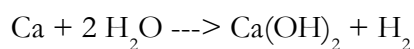
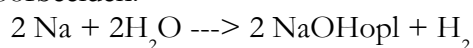
1. Verbranding van metalen:



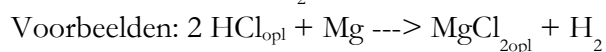
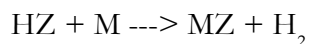
2. Reacties van metalen met water

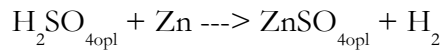


Voorbeelden:

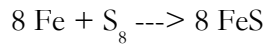
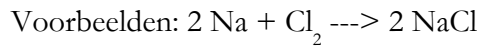


3. Reactie van zuur en metaal

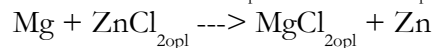




4. Vorming van binaire zouten uit de eenvoudige stoffen
 $\text{M} + \text{nM} \rightarrow \text{MZ}$



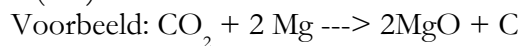
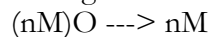
5. Reacties tussen een metaal en een zoutoplossing
 $\text{M} + \text{M}'\text{Z} \rightarrow \text{MZ} + \text{M}'$



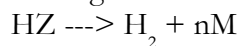
2. NIET-METALEN

Bereiding

1. Vorming van een niet-metaal



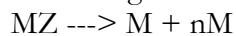
2. Vorming van een niet-metaal



elektrolyse

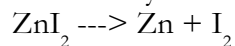


3. Ontleding van binaire zouten



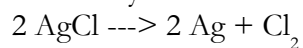
Voorbeelden: elektrolyse van zinkdijodide (smelt of oplossing)

elektrolyse



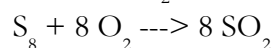
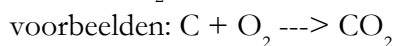
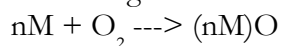
de fotolyse van zilverchloride

fotolyse

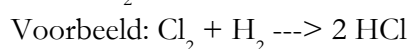
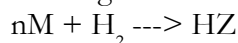


Chemische eigenschappen

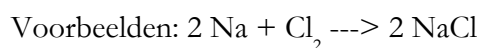
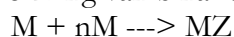
1. Verbranding van niet-metalen

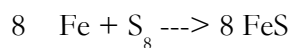


2. Vorming van binaire zuren uit eenvoudige stoffen

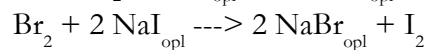
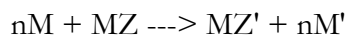


3. Vorming van binaire zouten uit de eenvoudige stoffen





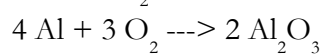
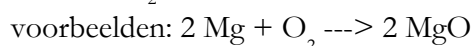
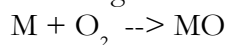
4. Reacties tussen een niet-metaal en een zoutoplossing van een binair zout



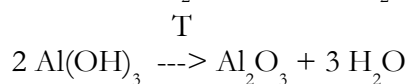
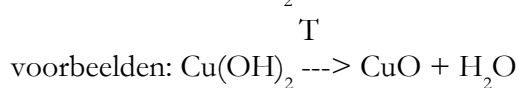
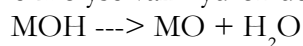
3. De METAALOXIDEN

Bereiding

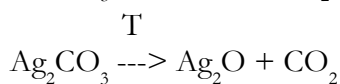
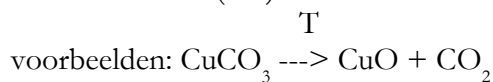
1. Verbranding van metalen:



2. Thermolyse van hydroxiden:

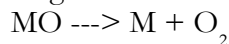


3. Thermolyse van ternaire zouten

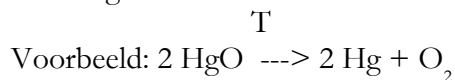


Chemische eigenschappen van metaaloxiden

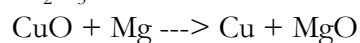
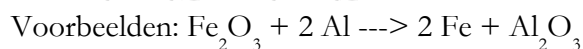
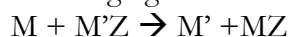
1. Vorming van een metaal:



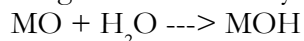
c. Ontleding van een metaaloxide

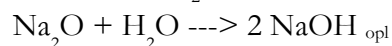
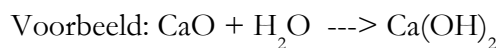


d. Verdringingsreactie



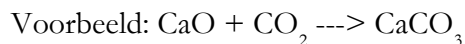
2. Vorming van een metaalhydroxide



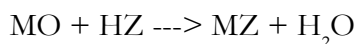


3. Vorming van zouten:

- a. Reactie tussen een metaaloxide en niet-metaaloxide



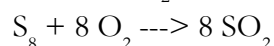
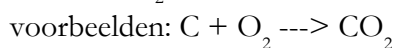
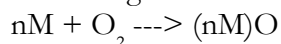
- b. Reactie tussen metaaloxide en een zuur



4. NIET-METAALOXIDEN

Bereiding van niet-metaaloxiden

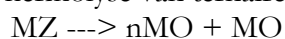
1. Verbranding van niet-metalen



2. Thermolyse van ternaire zuren



3. Thermolyse van ternaire zouten

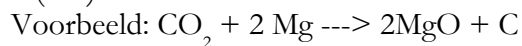
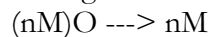


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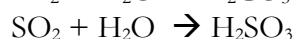
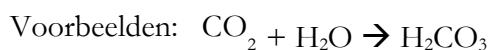


Chemische eigenschappen van niet-metaaloxiden

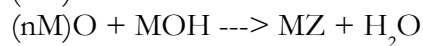
1. Vorming van een niet-metaal

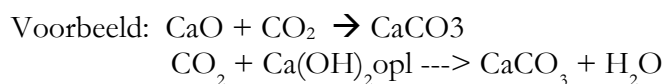


2. Vorming van zuren



3. Vorming van zouten

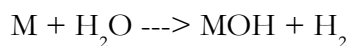




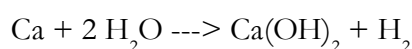
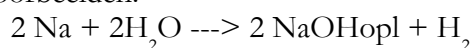
5. METAALHYDROXIDEN

Bereiding

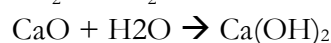
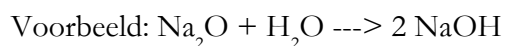
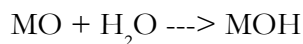
1. Reacties van metalen met water



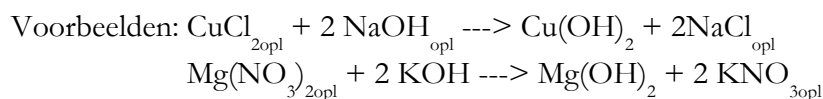
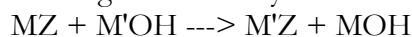
Voorbeelden:



2. Reacties van metaaloxiden met water

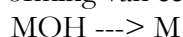


3. Vorming van metaalhydroxiden uit zoutoplossingen

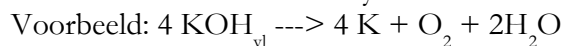


Chemische eigenschappen

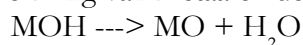
1. Vorming van een metaal



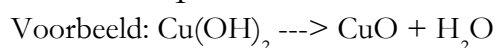
smeltelektrolyse



2. Vorming van metaaloxiden

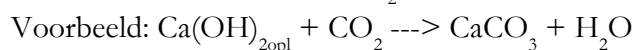
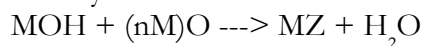


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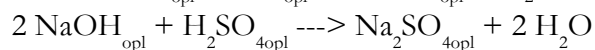
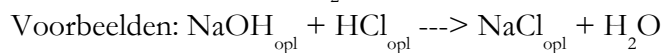
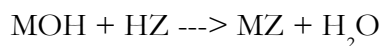


3. Vorming van zouten

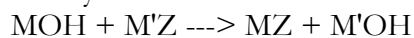
a. Metaalhydroxide en niet-metaaloxide



b. Metaalhydroxide en zuur



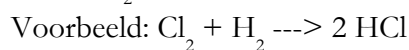
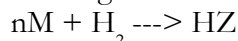
c. Metaalhydroxide en zout



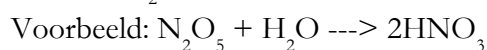
6. ZUREN

Bereiding van zuren

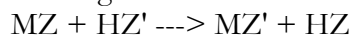
1. Vorming van binaire zuren uit enkelvoudige stoffen



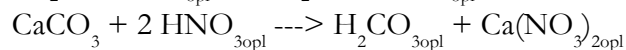
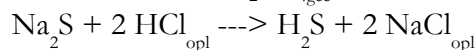
2. Reacties van niet-metaaloxiden met water



3. Vorming van zuren uit zouten en zuuroplossingen

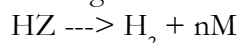


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Chemische eigenschappen van zuren

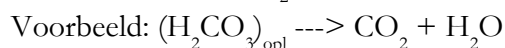
1. Vorming van een niet-metaal



elektrolyse

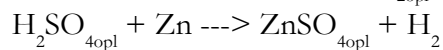
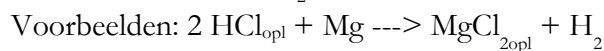
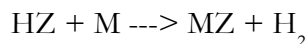


2. Vorming van niet-metaaloxiden

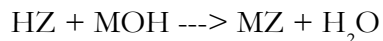


3. Vorming van zouten

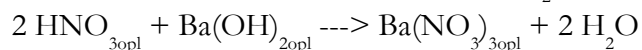
a. Reactie van zuur en metaal



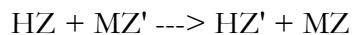
b. Reactie van een zuur en een metaalhydroxide



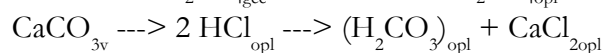
Voorbeelden: $\text{HI}_{\text{opl}} + \text{NaOH}_{\text{opl}} \rightarrow \text{NaI}_{\text{opl}} + \text{H}_2\text{O}$



c. Reactie tussen zuur en een zout



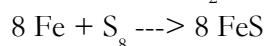
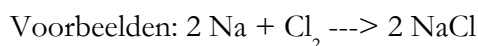
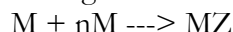
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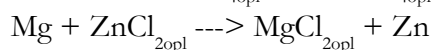
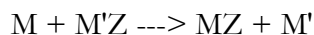
7. ZOUTEN

Bereiding

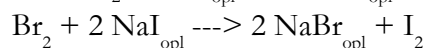
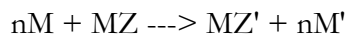
1. Vorming van binaire zouten uit de enkelvoudige stoffen



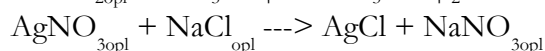
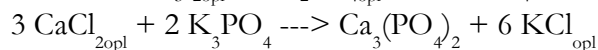
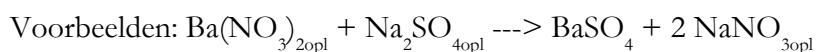
2. Reacties tussen een metaal en een zoutoplossing



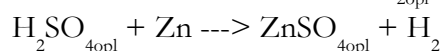
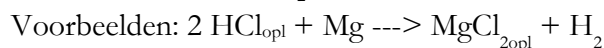
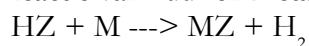
3. Reacties tussen een niet-metaal en een zoutoplossing van een binair zout



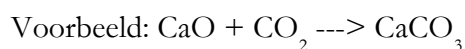
4. Reacties tussen zoutoplossingen



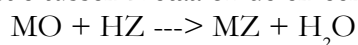
5. Reactie van zuur en metaal



6. Reactie tussen een metaaloxide en niet-metaaloxide



7. Reactie tussen metaaloxide en een zuur



8. Reactie tussen niet-metaaloxide en een metaalhydroxide
 $(nM)O + MOH \rightarrow MZ + H_2O$

Voorbeeld: $CO_2 + Ca(OH)_2 \text{opl} \rightarrow CaCO_3 + H_2O$

9. Metaalhydroxide en zout

$MOH + M'Z \rightarrow MZ + M'OH$

Voorbeeld: $Ca(OH)_{2\text{opl}} + Na_2CO_{3\text{opl}} \rightarrow CaCO_3 + 2 NaOH_{\text{opl}}$

10. Reactie tussen zuur en een zout

$HZ + MZ' \rightarrow HZ' + MZ$

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Voorbeelden: $2NaCl_{\text{v}} + H_2SO_{4\text{gec}} \rightarrow 2HCl + Na_2SO_{4\text{opl}}$

$CaCO_{3\text{v}} \rightarrow 2 HCl_{\text{opl}} \rightarrow (H_2CO_3)_{\text{opl}} + CaCl_{2\text{opl}}$

Chemische eigenschappen van zouten

1. Thermolyse van ternaire zouten:

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$MZ \rightarrow MO + nMO$

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Voorbeeld: $CaCO_3 \rightarrow CaO + CO_2$

2. Ontleding van binaire zouten

$MZ \rightarrow M + nM$

Voorbeelden: elektrolyse van zinkdijodide (smelt of oplossing)

elektrolyse

$ZnI_2 \rightarrow Zn + I_2$

de fotolyse van zilverchloride

fotolyse

$2 AgCl \rightarrow 2 Ag + Cl_2$

3. Reacties tussen een niet-metaal en een zoutoplossing van een binair zout

$nM + MZ \rightarrow MZ' + nM'$

Voorbeelden: $Cl_2 + KBr_{\text{opl}} \rightarrow 2KCl_{\text{opl}} + Br_2$

$Br_2 + 2 NaI_{\text{opl}} \rightarrow 2 NaBr_{\text{opl}} + I_2$

4. Verdringingsreactie

$MO + M' \rightarrow M'O + M$

Voorbeelden: $Fe_2O_3 + 2 Al \rightarrow 2 Fe + Al_2O_3$

$CuO + Mg \rightarrow Cu + MgO$

5. Verdringingsreactie

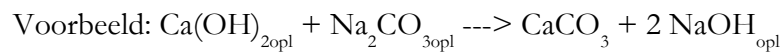
$M + M'Z \rightarrow M' + MZ$

Voorbeelden: $Fe_2O_3 + 2 Al \rightarrow 2 Fe + Al_2O_3$

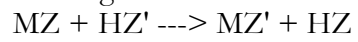
$CuO + Mg \rightarrow Cu + MgO$

6. Metaalhydroxide en zout

$MOH + M'Z \rightarrow MZ + M'OH$



7. Vorming van zuren uit zouten en zuuroplossingen



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