

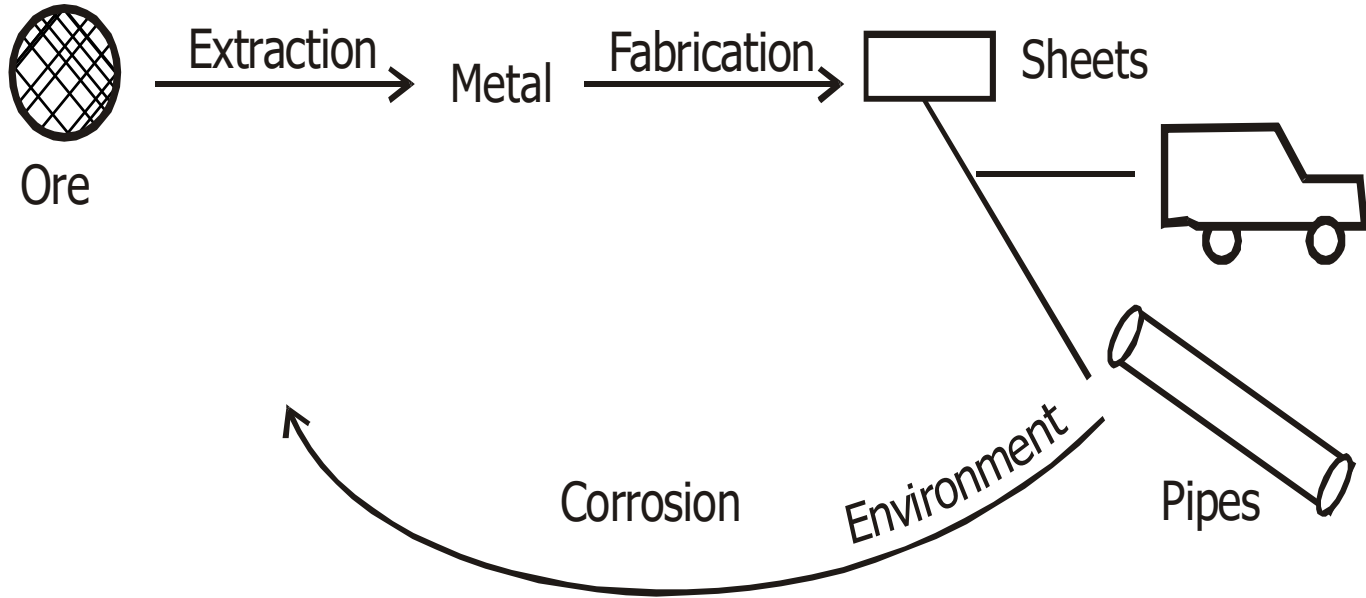
Corrosion

Introduction

1. Corrosion is electrochemical
2. Mordern eletrochem. -2
Ionics & electrodicts
3. Discuss will lead to
thermodynamics and kinetics.

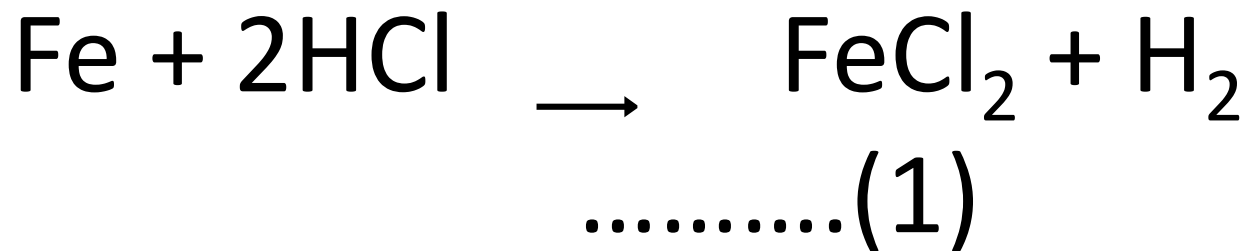
DEFINITION

Extractive metallurgy in REVERSE

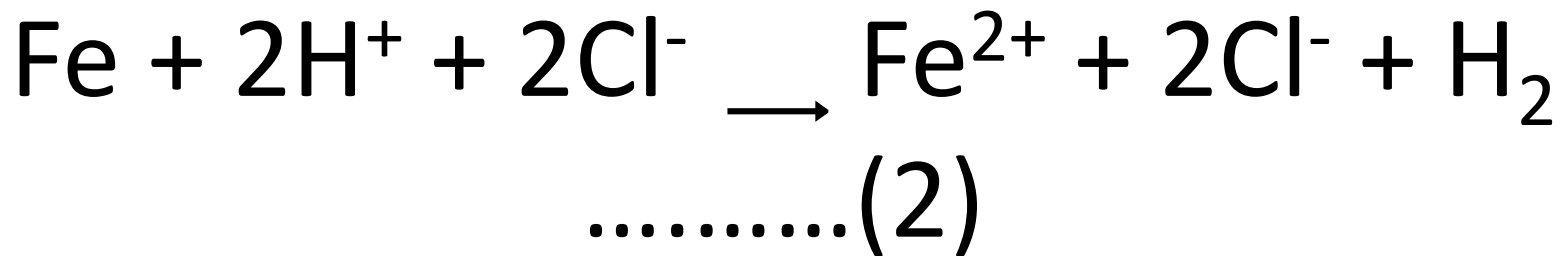


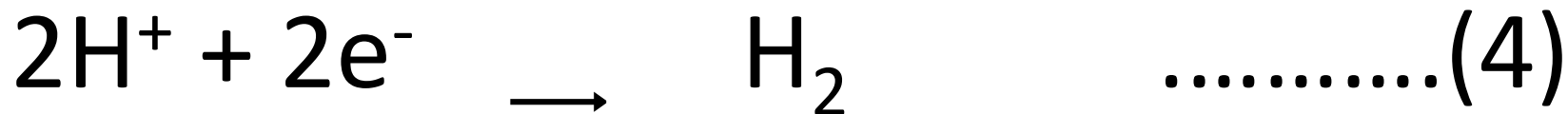
Basic corrosion RXNs

Take rxn of Fe with HCl



or





which is reduction rxn ?

Which is oxidation rxn?

Rxn 3, oxidation = ANODIC RXN

Rxn 4, reduction= CATHODIC.

Rate of rxn3= Rate of rxn4.

NO Xs build up of electrons during
corrosion.

MODEL OF CORROSION

1. Anodic Process
2. Cathodic Process
3. Electron movement in the metal
4. Ion movement in solution

ALL AQUEOUS CORROSION
INVOLVE THE 4

2 BASIC FORMS OF CORROSION

1. GENERAL OR UNIFORM

2. LOCALISED

GENERAL OR UNIFORM CORROSION

1. KINK OR EDGE SITES BICOM
ANODES
2. THE REST OF THE SURFACE
BICOMS CATHODE SITE

LOCALISED CORROSION

VARIOUS FACTORS DETERMINE
CATHODE AND ANODE

1. SECOND PHASE MATERIAL

2. RUPTURE IN SURFACE COATING

3. GALVANIC CELL

THERMODYNAMICS OF CORROSION