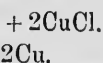


between protoxyd of
oxyd of iron, and
being as dichlorid,
in the equation A.
anner gives rise to
birds dichlorid and
ation B.



ee in B. is readily
(CuCl) of A, it fol-
r be dinoxyd, the
chloridized by the

e the protochlorid
able in water, but
and of most other
 194° Fahrenheit,
n 16 per cent. of
e than 8 per cent.
red of water, dis-
 $^{\circ}$ F. (40° C.) 6.0
dichlorid of cop-
water they deposit
order. A solution
water, dissolves at
 4° F. (40° C.)
above figures are
experiment. 100
per.

ight of protosul
mmon salt 58.5,

while that of copper is 3.17, and that of iron 2
the proportions for the bath, numbers a little
given, to allow for impurities in the salts empl
three equivalents, say 95.1 pounds of copper,
of protoxyd, two equivalents of protochlorid
from 280 pounds of copperas and 120 pound
100 imperial gallons or 1000 pounds of water.
convert one third of the copper into protochlorid
dichlorid, equal to 98.9 pounds of dichlorid of
this soluble we have prescribed the addition of
cent. additional of salt to the bath, while, as we
holding but 15 per cent., will dissolve at 194° F.
than this quantity. While these are the theore
is in practice, from a secondary re-action resul
of an insoluble basic per-salt, a loss of protoch
ing to from five to ten per cent., so that the c
the bath is somewhat less than above represen
considerable portion of dinoxyd of copper be p
amount of dichlorid will be larger than above e
of these reasons it is not well to add to the a
60 or 70 pounds of copper for each 100 gallo
the copper from a properly prepared ore wi
by several hours digestion or percolation, eve
more rapid in proportion as the heat approach

Preparation of the Ores.—In the calcinati
recommended, the object is to expel the carbon
otherwise cause much effervescence in the bath
dinoxyd predominates in the ore, this should be,
verted into protoxyd by calcination in the air,
leaves one third of its copper undissolved in th
ing sulphuretted ores by roasting till all the
there is obtained a mixture of sulphate of copp
a portion of dinoxyd, which latter, according to P
to 20 or 30 per cent. of the copper. Farther roa
will convert both this and the sulphate into pro
dition is less advantageous, inasmuch as both