



TECHNICAL INFORMATION

Reducing Agents

BRUGGOLITE[®] E01 (Textile)

Reducing agent for Textile Printing

Chemical Characterization

BRUGGOLITE[®] E01 is the sodium salt of hydroxymethane sulphinic acid. Commercially it is also known as sodium formaldehyde sulphonylate.

Nomenclature	sodium hydroxymethane sulphinic acid dihydrate
HS-Code	28 31 10 000
Formula weight	154,1 g/mol

Properties

Appearance	colourless crystalline substance
Melting point	app. 65°C
Solubility in water	680 g/l (20°C) 1400 g/l (60°C)
Alkaline resistance	good
Acid resistance	decomposition
Odour	slight internal odour
Delivery	powder, dusty rice, reduced dust split, free of dust lumps, free of dust

General description

The reducing potential of BRUGGOLITE[®] C depends on pH-value and temperature. Figure 1 shows that the reducing effect start at approximately 80°C and achieves maximum values when steaming at 100°C.

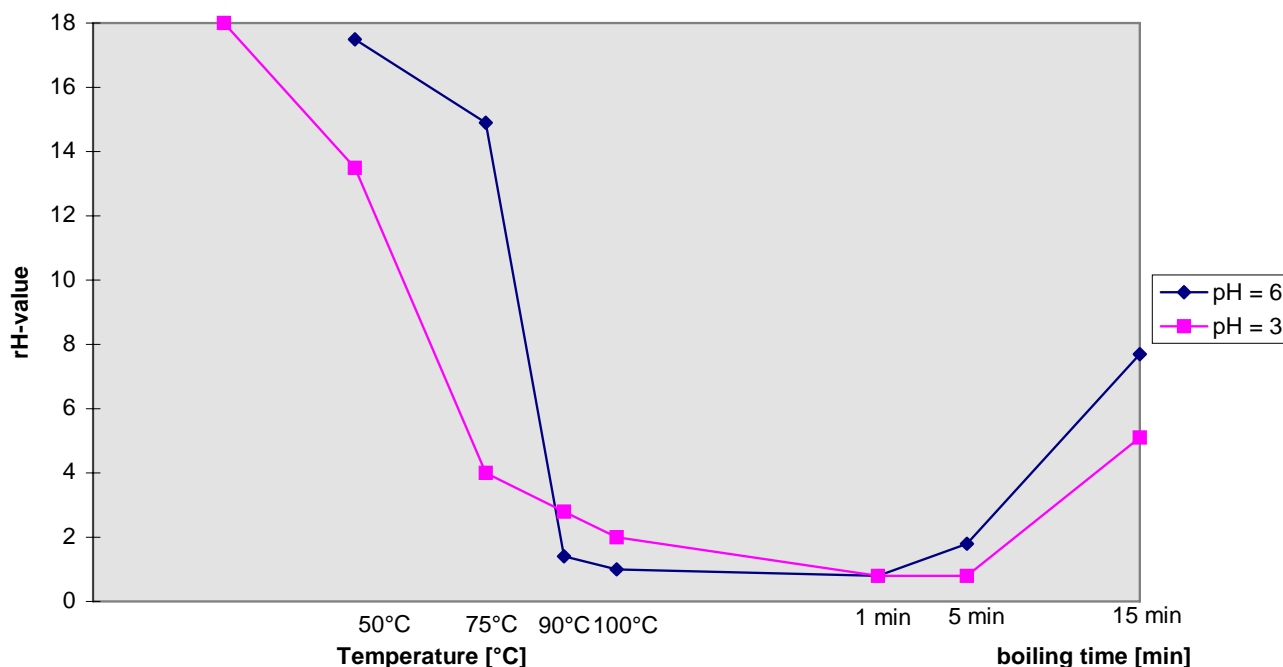


Figure 1: Temperature dependence of the r_H -value of BRUGGOLITE[®] E01 (10g/l)

Health and Safety Data

According to 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work "product" is not defined as a chemical agent which meets the criteria for classification as a dangerous substance/preparation.

However, this does not a priori exclude that "product" will fall within the definition "hazardous chemical agent" according to Article 2b of 98/24/EC.

Therefore the actual situation at the workplace has to be determined. Further information is given in the corresponding safety data sheet which is available on request.

In any case the standard industrial safety and hygiene procedures when handling chemicals have to be observed.

The aforementioned remarks are deducted from the European legal system. Deviating or additional regulations in other legal systems must be observed accordingly when using the product.

Fields of Application

BRUGGOLITE[®] E01 is above all used in the printing of cellulose fibres, whether in the woven or knitted state. Typical examples of applications are

- two-stage printing with vat dyes
- direct printing with vat dyes
- coloured discharge with vat dyes on dischargeable cellulose colouring
- white discharge printing on suitable cellulose fibre colouring

Two-stage printing with vat dyes

Due to its specific reduction properties BRUGGOLITE[®] E01 is successfully used for the two-stage printing with vat dyes.

Examples of pad-steam dye liquor compositions:

a) 690 g water 100 g BRUGGOLITE® E01 110 g potash 50 g glycerine 50 g sodium sulfate (glauber's salt) <hr style="width: 80%; margin-left: 0;"/> 1000 g	b) 600 ml water 20 g borax 40 g soda 40 g NaOH 100 g BRUGGOLITE® E01 x ml water <hr style="width: 80%; margin-left: 0;"/> 1000 ml
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The pad-steam dye liquor should be prepared in the recommended order to sequence. The printed dye material is padded in foulard and steamed for 4 or 6 minutes at temperatures between 105 and 110°C. Thereafter follow the usual operating sequences of rinsing, reoxidation and washing.

Direct printing with vat dyes

BRUGGOLITE® E01 is suited for direct printing as well. It can be mixed into a prepared thickener without any problem. A typical example is:

500 g thickener
40 g glycerine
130 g potash (or 100 g soda)
130 g BRUGGOLITE® E01
100 g water
<hr style="width: 80%; margin-left: 0;"/>
1000 g

The thickener should be either neutral or alkaline. The following composition is required for the printing colour:

600 g regular thickener
x g vat dye
y g water
<hr style="width: 80%; margin-left: 0;"/>
1000 g

It is printed and dried. The concluding steaming process using dry saturated steam lasts between 8 and 12 minutes.

Coloured discharge printing

BRUGGOLITE® E01 can also be used as an etching agent in coloured discharge dyeing on cellulose fibres. In this case however, the amount of reducing agent and alkali required for the preparation of the thickener is higher than in the case of direct printing.

White discharge dyeing

BRUGGOLITE® E01 is ideally applied here as an etching agent. A neutral white discharge print for example has the following composition:

150 g BRUGGOLITE® E01
500 g thickener
100 g titanium dioxide (or titanium dioxide / zinc oxide)
250 g water
<hr style="width: 80%; margin-left: 0;"/>
1000 g

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Package and storage

Standard packing are:

25 kg PE-bag

If kept properly in unopened bags or drums (dry, 25°C) the shelf life of BRUGGOLITE® E01 is for at least 12 month. Storing together with oxidizing substances or with acids should be avoided

Technical Information Bruggolite E01

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