

Technical - Information

AVCO-REDUCTON THC

STABILIZED MULTIFUNCTIONAL REDUCTION AGENT

AVCO-REDUCTON THC is a highly effective, universal reduction agent for the textile industry. Thanks to its specific redox potential, which already exists in weakly acid medium (above pH 6.0) and is specifically high in alkaline medium, it is an ideal alternative to hydrosulphite with regards to economy and ecology.

Comparing to hydrosulphite, AVCO-REDUCTON THC is relatively less sensitive to atmospheric oxygen, odorless, stronger reduction effect and lower risk of self-ignition, that leads to more beneficial and safer for handling.

SPECIFICATION:

Appearance	White powder.
Chemical nature	Sulphinic acid derivative.
Solubility	Neutral: 25 – 30 g/l, Alkaline: up to 100g/l
pH (1% sol.)	Approx.3
Compatibility: Alkalis, Acids, Water-hardness, Heavy metals, Oxidizing agent	Good, Good, Good, Good, Is not compatible.
Storage	The shelf life is at least 12 months. Do not store in direct sun. Keep in cool and dry place. The Product is sensitive to open air and moisture. Once opened, partially used bags should be re-sealed tightly (spare fastening strings can be provided upon request) to avoid contact with air and humidity.

PROPERTIES & USES:

1. AVCO-REDUCTON THC is a highly effective, universal reduction agent used as a reducing agent for bleaching textiles, in a reductive bleaching process. The bleaching effect is obtained by reducing the coloured impurities in the raw textile fibres and converting them to colourless and water soluble matter, which can be washed-out from the bleached textile.
2. AVCO-REDUCTON THC is recommended as a post reductive bleaching agent, after an oxidative bleaching process, when bleaching natural fibres such as wool, cotton, silk, etc. This process gives a very high whiteness effect.

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- Wool and polyamide can be bleached by AVCO-REDUCTON THC in a reductive bleaching process, without pre-oxidative bleaching process.
- AVCO-REDUCTON THC is a strong stripping agent for repairing the faulty dyed cotton yarns or fabrics dyeing with reactive dyes.
- Suitable for reduction clearing processes of dyeing made with disperse dyes. The product removes the unfixed dyes from the fibers surface, and improves the washing and rubbing fastness properties of the dyed textile.
- For environmental aspect, the waste water of AVCO-REDUCTON THC is released from sulphur by approx. 75% compared to the use of hydrosulphite and has an extremely low COD-value compared to organic, sulphur-free reduction agents.

APPLICATION:

1. Reductive bleaching:

a. Reductive pre-bleaching of CO (halfbleach)

AVCO-REDUCTON THC: 1 – 2 g/l

NaOH 38°Bé: 2 – 4 cc/l

Treat at 80°C for 30 mins, then rinse and neutralize.

b. Reduction after-bleaching of CO (full white)

After pre-bleached with peroxide.

AVCO-REDUCTON THC: 1 – 2 g/l

NaOH 38°Bé: 1.5 – 3 cc/l

Treat at 80°C for 30 mins.

Rinse.

Neutralise with AVCO-CID PHS: 0.5 cc/l

Add 1.0 cc/l H₂O₂ 50% to last rinse to prevent unpleasant smell.

c. Reductive bleaching of regenerated cellulosis fibres, CA, CTA,SE and PA

AVCO-REDUCTON THC: 0.75 – 1 g/l

Na₂CO₃: 2 g/l

AVCO-BLANK JET HC: 1 g/l (if needed)

Treat at 80°C for 30 mins.

Rinse.

Neutralise with AVCO-CID PHS: 0.5 cc/l

Add 1.0 cc/l H₂O₂ 50% to last rinse to prevent unpleasant smell.

d. Reductive bleaching of wool (alone or after peroxide bleaching with immediate rinsing)

AVCO-REDUCTON THC: 1 – 2 g/l

AVCO-BLANK JET HC: 1 g/l (if needed)

Adjust pH 6 – 6.5 with phosphate buffer.

Treat at 70°C for 30 - 60 mins.

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Warm rinse.

Cold rinse.

Add 1cc/l H₂O₂ 50% to last rinse to prevent subsequent yellowing.

2. Reductive after-clearing of disperse dyeing and printing:

a. Exhaustion:

AVCO-REDUCTON THC: 1.0 – 4.0 g/l

NaOH 38⁰C: 1.0 – 4.0 cc/l

AVCO-GEN PV: 0.5 – 1.0 g/l

Treat at 80 – 85⁰C for 20 -30 mins.

b. Open- width washing range:

AVCO-REDUCTON THC: 1.0 – 5.0 g/l

NaOH 38⁰C: 5.0 – 20.0 cc/l

AVCO-GEN PV: 1.0 – 5.0 g/l

80 – 90⁰C, hot rinse, cold rinse and neutralise.

3. Stripping of faulty dyeing:

AVCO-REDUCTON THC: 1.0 – 4.0 g/l

NaOH 50%: 2.0 – 6.0 g/l

Treat at 100⁰C for 45 – 60 mins, rinse thoroughly, neutralize.

4. Cleaning of dyeing machine:

AVCO-REDUCTON THC: 1.0 – 2.0 g/l

NaOH 50%: 2.0 – 10.0 g/l

AVCO-CLEAN OGM ECO: 1.0 – 2.0 g/l

Treat at 95 – 135⁰C in 30 – 60 mins, rinse thoroughly.

5. Further fields of application:

- Dyeing process with vat and sulphur dyes.
- Vat two- phase printing.
- Discharge printing.
- Stone-wash on denim articles.

SAFETY GUIDES:

1. The product is self-heating and ignitable, so it should be store in dry, clean, well- ventilated place, keep the warehouse temperature under 30⁰C, keep away from moisture and rain. If the temperature and moisture is too high, it is easy to smoking, even spontaneous combustion.
2. Use dry, clean tools to take out and contain the product from the original bags.
3. When open the bag, do not open wide, the partially used bags should be re-sealed tightly with fastening strings to avoid contact with air and humidity. Generally, storing one week is no problem for good using.

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4. When handling, wear appropriate personal protective equipment, avoid direct touching.
5. Incident response:
 - Inhalation: Immediately carried the victim into the fresh air, immediately for treatment.
 - Skin/eyes contact: If skin or eyes with contact, immediately rinse with plenty of fresh water.
 - Fire-fighting: Use Carbon dioxide, dry powder and foam.