



2017 - World Denim Fabric Production

6 billion meters

3 million 

COTTON

Amount of wastewater released in the dyeing process of 1 kg cotton

60 litres

Waste water of Total world denim Production

180 million m³



ECONSIDANT

SULTAN BLACK ECO

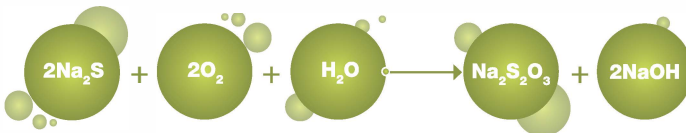
AFTER DYEING WITH CONVENTIONAL SULPHUR DYES

By the reduction of sulphide ions Sulphur Black will be the form of solubilize in water so can apply to the Cotton fabric.

After that for fixation it should be transfer to the non-soluble form again So Air Oxidation is the way of air passages continuous dyeing machine Finally

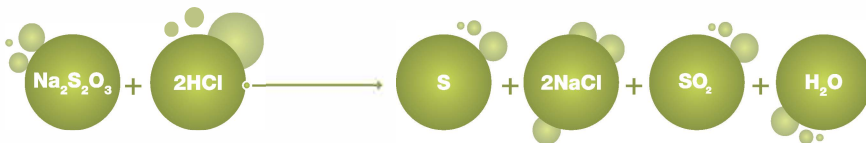
What is happening ?

- ▶ Reaction of Sodium Sulphide with Water and Oxygen
The result is Sodium Thiosulfate.



If everything goes well and fully Oxidized

- ▶ Waste water plant should acidify before bio treatment of waste water from dyeing houses therefore pH about 11-14



- ▶ If everything goes well you will have elementer Sulphur and sulphurdioxide.
- ▶ You will filter Sulphur why it is not soluble in the water but have to have scrubber for SO₂ which is non permitted discharge gas to atmosphere.

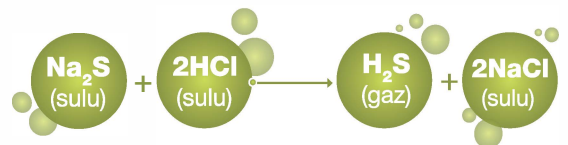
Waste water produced by Sultan Black ECO

- ▶ It can be easily acidified without the risk of H₂S emission and after filtration,
- ▶ Completely colorless, harmless to the environment and human health, easy to treat, recyclable for reuse.
- ▶ The dye lost during the washing process is also recycled for reuse.

IF NOT ?

After air oxidation washing chambers will take all non oxidized reducing agents from cotton to the water with running meters enriched and finally deliver to waste water plant. High alkaline water before biologically treatment is required pH adjustment. Even though reduce pH with inorganic acid like sulphuric or hydrochloric acids.

So the expected reaction will be like that



SULTAN BLACK ECO Non-Sulphide Sulphur Black Dye ECONSIDANT Sulphide Free Reducing Agent

We proudly announce to brands, buyers, dyers, researchers and all parties of who cares about sustainable production and save the planet approaches.

- ▶ Totally ecological dyeing system starting with raw material production like wise Sulphur Black and Antioxidants.
- ▶ No need to change any production method
- ▶ No need to have new machine investment
- ▶ No need to have additional parameter should monitoring
- ▶ No need to be suspected anymore by the environmental authority
- ▶ No more bed odors from waste water plant
- ▶ No more facet circle of Sulphur
- ▶ Usage amounts will be very similar even same gr/l of conventional dyes.

