
Technical Information

TI/ES 1450 e
May 2000 (DFC)

Lugalvan[®] NES

[®] = Registered trademark of
BASF Aktiengesellschaft

Product used to formulate brightener additives for the electro-
plating industry and for other applications in the chemical and allied
industries

BASF

Lugalvan NES

Chemical nature

Sodium salt of sulphited and sulphated alkylphenol ethoxylates

Properties

Physical form	Clear, yellowish or brownish liquid
Concentration (100 %-water content and salt content)	39 – 41 %
Water content (DIN 51777, Part 1, ASTM D 1744)	58 – 61 %
Salt content (Na ₂ SO ₄ , NaCl; BASF method potentiometric titration)	0.1 – 1 %
pH (ISO 976)	11 – 13
Density (DIN 51757, ASTM D 1298, 23 °C)	1.14 – 1.18 g/cm ³

The above information is correct at the time of going to press. It does not necessarily form part of the product specification.

A detailed product specification is available from your local BASF representative.

Storage

Lugalvan NES has a shelf life of one year in its sealed original packaging, provided it is stored properly.

Sodium sulphate and sodium chloride can crystallize out of solution if Lugalvan NES is left to stand for long periods.

Application

Lugalvan NES is used to formulate brightener additives employed in the electroplating industry. It is particularly effective in brightener formulations for acid zinc and tin electrolytes.

Lugalvan NES has the following advantages in zinc and tin electrolytes.

- It increases the cloud point of the bath
- It emulsifies oils and fats.
- It solubilizes Lugalvan TC-BAR.
- It lowers the consumption of Lugalvan TC-BAR.
- Consumption remains constant during the working life of the bath.
- It is effective at a wide range of concentrations, from 0.1 g/l to 15 g/l.
- It can be applied alone.
- It is compatible with all conventional surfactants.
- It does not impair the throwing power.
- It prevents charring at high current densities.

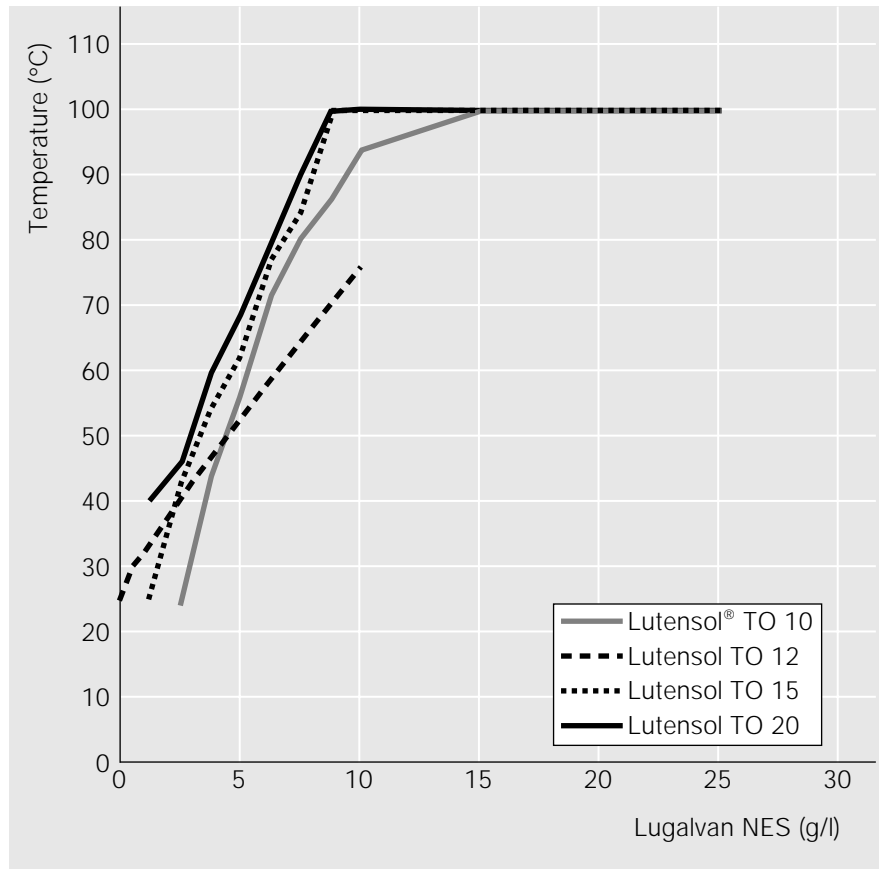
- It does not impair the solubility of the anode.
- It can also be used for zinc-nickel alloy plating.

The following diagrams illustrate the large increase in cloud point that can be obtained by adding combinations of Lugalvan NES and surfactants to acid zinc electrolytes. Lutensit® TC-EHS and surfactants from our Lutensol® range were taken as examples.

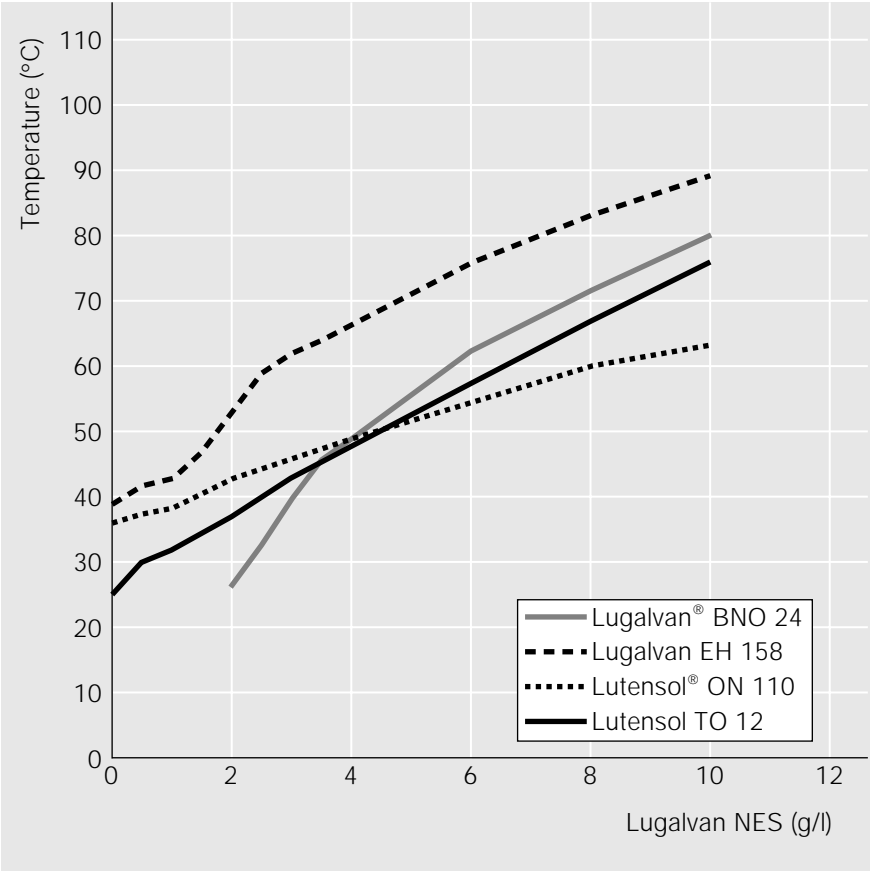
The cloud points of electrolytes with the following composition were measured.

Ammonium-free zinc plating bath

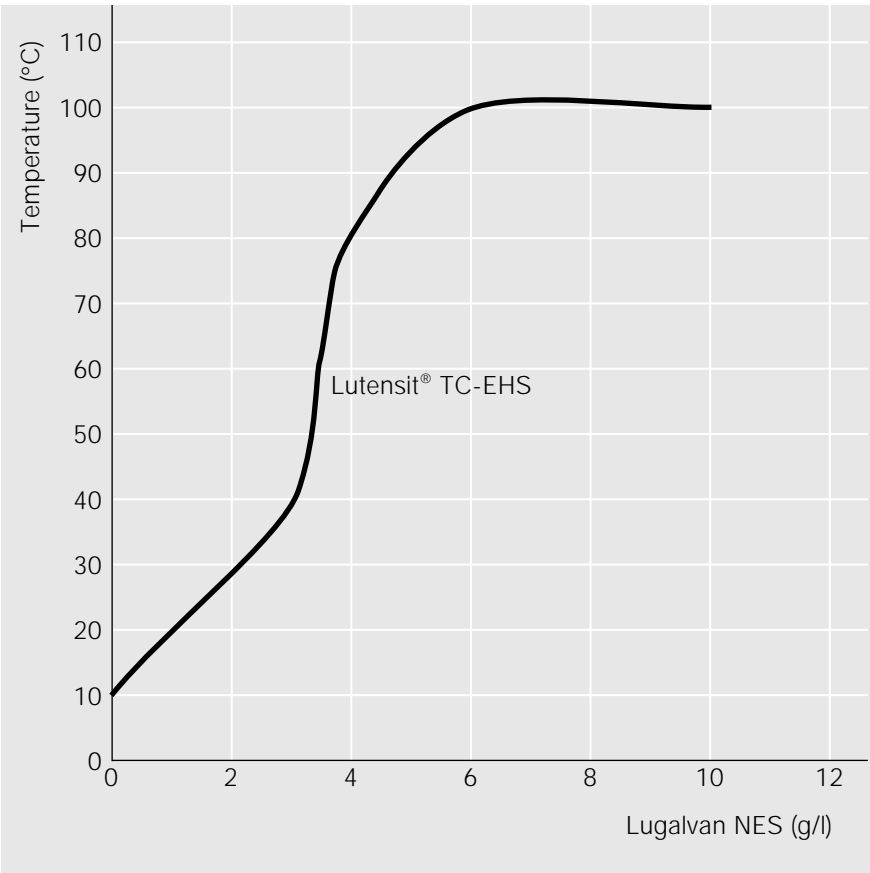
- + 6 g/l Sodium benzoate
- + 2 g/l Surfactant
- + x g/l Lugalvan NES
- + 0.4 g/l Lugalvan TC-BAR



The following diagram shows the effects of various typical solubilizers for Lugalvan TC-BAR on the cloud point of the formulation.



The following diagram shows the effects of adding a combination of anionic surfactants alone to the formulation.



Safety

We know of no ill effects that could have resulted from using Lugalvan NES for the purpose for which it is intended and from processing it in accordance with current practice.

According to the experience we have gained over many years and other information at our disposal, Lugalvan NES does not exert any harmful effects on health, provided that it is used properly, due attention is given to the precautions necessary for handling chemicals, and the information and advice given in our safety data sheet are observed.

Note

The information submitted in this publication is based on our current knowledge and experience. In view of the many factors that may affect processing and application, these data do not relieve processors of the responsibility of carrying out their own tests and experiments; neither do they imply any legally binding assurance of certain properties or of suitability for a specific purpose. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed.

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