



From : LYNRED

To : OKO-INSTITUTE

Subject: Comments on nickel sulfamate, in relation to the Substance Review and possible amendment of the RoHS Annex II list of restricted substances

### Applications and quantities

- Nickel sulfamate is used during the manufacturing of certain infrared detectors subassemblies.
- Cold finger parts are processed in baths containing nickel sulfamate.
- Nickel sulfamate is used for its main function of anticorrosion.
- The concentration of Nickel sulfamate on the items supplied is not precisely known to date, it has been asked to suppliers, and is probably > 0.1% on electroformed nickel screens and < 0,1% on the coatings of the concerned components of cold fingers.
- Finally, we can reasonably estimate that less than 100 g of nickel sulfamate might be found in final products of a year.
- Manufacturers remain attentive on possible substitution of nickel sulfamate in their processes. To date, no alternative has been found for the treatment of cold finger parts.
- Infrared detectors are considered as EEE for industrial applications.

### Potential emissions in the waste stream

- As per our suppliers, protection measures are implemented during the manufacturing process so that no employees are in direct contact with nickel sulfamate (Employees are wearing gloves and personal protective equipment during chemical activities at ambient temperature and operations are carried out in confined and vacuum environments, so there is no risk of exposure to fumes).
- Protection measures are implemented to avoid direct contact with nickel sulfamate during assembling process under infrared detectors (employees are wearing gloves and personal protective equipment).
- After the end of life, a channel for collection and treatment of the products is available. The products collected are treated as hazardous waste.

### Socio economic impact of a possible restriction

- The sub-parts that are treated with nickel sulfamate are essential as allowing LYNRED to have a complete range of infrared detectors.
- 700 jobs are directly insured by the existence of processing activities on these sub-parts (subcontractors and suppliers not included, at least 100 persons).

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