

**KES**

## Molybdenum in Grease Products

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## 1. Scope of application

This standard shall prescribe method for quantitative analysis of molybdenum concentration used for lubrication in grease by atomic absorbance analyzer.

## 2. Method summary

After acid decomposition of a sample, make 8-hydroxy quinoline and sample reacted, extract it with methyl iso butyl ketone, analyze it with being absorbed to flame of  $\text{N}_2\text{O}-\text{C}_2\text{H}_2$ .

## 3. Meaning

$\text{MoS}_2$  is used as extreme pressure addition of many lubrication materials, characteristic of lubrication material is affected by content of  $\text{MoS}_2$

## 4. Interference

V, Fe increases absorption, Cr, W suppresses absorption.

This interference can be removed by addition of ascorbic acid.

## 5. Equipment and material

(1) Atomic absorbance analyzer : It can use wavelength of 313.3 nm

(2) Oxidizer :  $\text{N}_2\text{O}$

(3) Combustion gas :  $\text{C}_2\text{H}_2$

## 6. Reagent

(1) Ascorbic acid (10 g / ℓ) : Make 100 ml with dissolving ascorbic acid in water.

(2) Brom phenol blue indicator solution(10 g / ℓ) : Make 100 ml with dissolving brom phenol blue of 0.1 g in 50 % ethyl alcohol or iso propyl alcohol.