

# Australian Standard®

AS 1141.36:2017

## Methods for sampling and testing aggregates Method 36: Sulfur in metallurgical slag, crushed rock or other pavement materials

**WARNING: SOME OF THE CHEMICALS OR PROCEDURES SPECIFIED IN THIS STANDARD COULD LEAD TO A HAZARDOUS SITUATION IF CORRECT SAFETY MEASURES ARE NOT FOLLOWED. PERSONS USING THIS AUSTRALIAN STANDARD NEED TO BE FAMILIAR WITH NORMAL LABORATORY PRACTICE. THIS STANDARD DOES NOT ADDRESS THE SAFETY PROBLEMS, IF ANY, ASSOCIATED WITH ITS USE. IT IS THE RESPONSIBILITY OF THE LEGAL ENTITY USING THIS STANDARD TO ESTABLISH APPROPRIATE SAFETY AND HEALTH PRACTICES, TO ENSURE COMPLIANCE WITH ANY NATIONAL, STATE OR LOCAL REGULATORY REQUIREMENTS, AND TO INSTRUCT IN AND ENFORCE COMPLIANCE OF THE SAFETY AND HEALTH PRACTICES.**

### 1 SCOPE

This Standard sets out the method for the determination of the amount of sulfur in metallurgical slag, crushed rock or other pavement materials expressed as total sulfur content and acid soluble sulfate content. It includes a test for total sulfur and a test for acid soluble sulfate. The method assumes that personnel conducting the procedure are trained and competent in safely conducting chemical tests and in the preparation of standard solutions.

### 2 PRINCIPLE

In the total sulfur test, sulfur is oxidized and brought into solution as sulfate. Soluble silica is precipitated by boiling with acid. Mixed trioxide ( $R_2O_3$ ) contamination is removed by precipitation and filtration. Sulfur present is precipitated as barium sulfate, the mass of which is then determined. The content of sulfur containing compounds is expressed as percentage total sulfur (percent S).

Acid soluble sulfate is determined by a similar procedure to the total sulfur procedure; however, the oxidation step is omitted. Acid soluble sulfate content is expressed as percentage sulfur trioxide (percent  $SO_3$ , sulfite).

### 3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1141	Methods for sampling and testing aggregates
1141.1	Part 1: Definitions
1141.2	Method 2: Basic testing equipment
1152	Specification for test sieves
2243	Safety in laboratories
2243.8	Part 8: Fume cupboards