

Certificate of Analysis

SIGMA-ALDRICH

Product Name Iron(II,III) oxide,
99.99% trace metals basis
Product Number 518158
Product Brand ALDRICH
CAS Number [1317-61-9](#)
Molecular Formula Fe₃O₄
Molecular Weight 231.53

TEST

APPEARANCE

TITRATION

TRACE ANALYSIS, ICP

SPECIFICATION

BLACK POWDER

71.3% - 73.4% FE (WITH
SODIUM THIOSULFATE)

200 PPM (MAXIMUM)

TOTAL METALLIC
IMPURITIES

LOT 23920BB RESULTS

BLACK POWDER

71.10 % FE (WITH
SODIUM THIOSULFATE)

TRACE METALS PPM:

AL 80.9; CR 37.3;
PR 28.7; TI 6.37;
CA 6.21; NI 5.37;
K 4.08; CO 3.05;
NA 2.37; GE 2.05;
ZN 1.72; GA 1.47;
PB 0.87; CU 0.86;
B 0.81; MO 0.76;
MG 0.57; PT 0.55;
BA 0.43; CD 0.38;
LI 0.35; SR 0.32;
ER 0.31; SN 0.27;
AG 0.27; NB 0.15;
CE 0.15; LA 0.10;
IR,CS, 0.10;
W 0.09; ZR 0.08;
TL 0.04

ICP ASSAY

PURITY

CONFIRMS IRON
COMPONENT.

PURITY BASED ON
TRACE METALS
ANALYSIS

CONFIRMS FE
COMPONENT

99.99+% BASED ON
TRACE METALS
ANALYSIS

A handwritten signature in black ink, reading "Barbara Rajzer". The script is fluid and cursive, with the first name "Barbara" and last name "Rajzer" clearly distinguishable.

Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA