

# Technical Data Sheet

TDS SeSG 4N5 JAN-2008



## Selenium Special Grade 4N5

### I. Principal Uses

Glass colouring or decolouring, improving steel machinability, additive in production of Electrolytic Manganese Metal, additive in animal feed, coloured pigments, chemicals, refining the metal grains in the grid of lead batteries, CI(G)S photovoltaic solar cells.

### II. Physical Data

Morphology powder	Crystalline, hexagonal
Morphology shots	Amorphous, vitreous
Apparent density	$\pm 1,2 \text{ g/cm}^3$
Density (Pure Se)	$4,80 \text{ g/cm}^3$
Transition temperatures	
Melting point	217 °C
Boiling point	685 °C
Forms	powder 200 mesh sieved shots $\varnothing 1 - 5 \text{ mm}$

### III. Analysis

<b>Se</b>	<b>99,995% min.</b>
As	$\leq 1 \text{ ppm}$
Te	$\leq 5 \text{ ppm}$
Pb	$\leq 5 \text{ ppm}$
Cu	$\leq 1 \text{ ppm}$
Hg	$\leq 5 \text{ ppm}$
Ni	$\leq 5 \text{ ppm}$
Fe	$\leq 5 \text{ ppm}$
S	$\leq 20 \text{ ppm}$
Si	$\leq 1 \text{ ppm}$

**Sum of all elements < 50 ppm**

**IV. Available Packing**      25 kg net weight polyethylene bag in metal drum

### V. Additional Information

#### **Analysis methods**

Emission spectrography with detection limits of 0.1 to 1 ppm for 20 different metals.

For non-metals such as S, Cl and O, special methods are used (GDMS, Ion chromatography).

#### **Handling**

To maintain good quality, selenium should be stored in a cool, dry and non-oxidizing place. Temperatures (especially for shots) not to exceed 21 degrees Celsius.

Selenium is to be stowed away from foodstuffs, although elemental and stable metallic selenides in massive form are relatively inert and are considered to be non-toxic.

All conditions causing highly toxic  $\text{H}_2\text{Se}$  are to be avoided.

#### **Safety data sheet (MSDS):**

Available upon request.