45000 Ultramarine Blue, very dark

Chemical Composition
Product name: Ultramarine Blue, very dark
Chemical name: Sodium aluminium sulfo silicate
Color index: C.I. Pigment blue 29 : 77007
CAS No.: 57455-37-5 (TSCA)
          101357-30-6 (EINECS)
EINECS: 3-099-283

Specification
Coloring (optical brightening 1:5 with titanium dioxide in linseed oil compared to standard)
DL: max. ± 0.30 CIEL
DH: max. ± 1.00 CIEL
DC: max. ± 1.30 CIEL
DE: max. 1.50 CIEL
Screen oversize (45 µm): max. 0.15 %
Volatile part (105°C): max. 1.00 %
Free sulfur: max. 0.05 %
Water soluble parts: max. 0.70 %

Typical data
Coloring strength: 86
Density: 2.35
Bulk density (g/cm³): 0.84
Mean particle size (µm): 3.80

Fastness/Resistance
Temperature stability: > 350°C
Light fastness (Xenon lamp and daylight): excellent (7 - 8)
Light fastness - dilution: excellent (7 - 8)
Alkali resistance: excellent
Acid resistance: weak

Safety Data
Acute oral toxicity (LD50, rat): > 10 g/kg
Skin irritation: not irritant and not sensitizing
Eye irritation: not irritant
Limit of exposition: 6 mg/m³ (MAK value)
Ecology: not hazardous
Regulations

Ultramarine blue is a non-toxic pigment. It is generally permitted for coloring objects/things having contact with foodstuffs and for the manufacture of toys.

Storage, Stability and Handling

Transportation and storage: Do not store near acid substances.
Not compatible substances: Acids
Decomposition products: Release of hydrogen sulphide after contact with acids.
Special protective measures: None, however avoid dust formation.
Methods for cleaning up / absorption: Clean up mechanically - avoid dust development.

Raman spectrum of 45000:
(Source: MR PHSG, 2017)