Safety data for antimony trioxide

Glossary of terms on this data sheet.

The information on this web page is provided to help you to work safely, but it is intended to be an overview of hazards, not a replacement for a full Material Safety Data Sheet (MSDS). MSDS forms can be downloaded from the web sites of many chemical suppliers.

General

Synonyms: antimony (III) oxide, antimony white, antimony bloom 100A, atox B, atox F, bluestar RG, bluestar Z, diantimony trioxide, FireShield H, flowers of antimony, thermoguard B, antimony sesquioxide, numerous further trade names
Use: fire retardant
Molecular formula: Sb_2O_3
CAS No: 1309-64-4
EINECS No: 215-175-0
Annex I Index No: 051-005-00-X

Physical data

Appearance: white powder
Melting point: 655 C
Boiling point: 1425 C
Vapour density: 10 (air = 1)
Vapour pressure:
Density (g cm^{-3}): 5.7
Flash point:
Explosion limits:
Autoignition temperature:
Water solubility: slight

Stability

Stable. Incompatible with strong reducing agents.

Toxicology

ACGIH suspected carcinogen (group 2B). Harmful if swallowed, inhaled or absorbed through the skin. Typical TLV/TWA 0.5 mg/m3.

Toxicity data

(The meaning of any toxicological abbreviations which appear in this section is given here.)
IPR-RAT LD50 3250 mg kg^{-1}

Risk phrases

(The meaning of any risk phrases which appear in this section is given here.)
R20 R21 R22 R40.

Hazard statements

(The meaning of any hazard statement codes which appear in this section is given here.)
H351.

Precautionary phrases

P281.

Transport information

(The meaning of any UN hazard codes which appear in this section is given here.)
Non-hazardous for air, sea and road freight.

Personal protection

Safety glasses, good ventilation. Handle as a possible carcinogen.

Safety phrases

(The meaning of any safety phrases which appear in this section is given here.)
S26 S27 S45.

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SPECIFICATION OF ANTIMONY TRIOXIDE

PARAMETER	TEST METHOD	GUARANTEED SPECIFICATIONS
CHEMICAL		
Total Antimony oxide content	Calculated	99.50 % min.
Lead (Pb)	A.A.S	0.25 % max.
Arsenic (As)	A.A.S	0.30 % max.
Iron (Fe)	A.A.S	0.01 % max.
PHYSICAL		
Average particle size	Fisher sub siever	1.1 Micron max.
Bulk density	Measuring cup	0.3 - 1.0 gms/cc
Sieve Refusal (44 µ m/325 mesh)	ISO 787-7	0.1 % max.

COLOR

L value	Hunter scale	92.0 min.
b value	Hunter scale	2.2 max.

PACKING

Paper bags 25 kgs net weight.

APPLICATIONS

Excellent flame retardant for plastics and rubber, laminates, insulation, paints & varnishes, paper and textiles, in combination with a halogen source.

Opacifying agent for enamels and ceramic pigments, paints and printing inks. Its fine particle size gives a good reactivity in the preparation of antimony-based pigments.