



MATERIAL SAFETY DATA SHEET

Ref: MSDS-031

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Issue: 1

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**STANOSTAT CONDUCTIVE INK**

**1. PRODUCT AND COMPANY INFORMATION**

- 1.1. Substance identification: STANOSTAT CONDUCTIVE INK
- 1.2. Company identification: Keeling & Walker Limited,  
Whieldon Road,  
Stoke-on-Trent,  
ST4 4JA, ENGLAND.
- 1.3. Emergency contact number: +44 (0) 1782 744 136

**2. COMPOSITION / INFORMATION ON INGREDIENTS**

- 2.1. The product comprises an aqueous dispersion of a mixed metal oxide of tin and antimony and a proportion of organic solvents and surfactant. Maximum solids content 10% w/w. The composition of the mixed metal oxide is:  
Tin (IV) oxide: 80% minimum, Antimony oxide: 20% maximum
- 2.2. Synonyms: Conductive tin oxide ink. Antimony doped tin oxide conductive ink.
- 2.3. Chemical Abstract Number: CAS 68187-54-2  
European Inventory Number: EINECS 2691059

**3. HAZARDS IDENTIFICATION**

- 3.1. Antimony oxide is classified in CHIP3 as a Class 3 Carcinogen
- 3.2. Hazard symbol: Xn: HARMFUL (St.Andrews Cross on orange background)

**4. FIRST AID MEASURES**

- 4.1. Inhalation: Remove from exposure to fresh air
- 4.2. Ingestion: Drink plenty of water, seek medical attention
- 4.3. Eye contact: Flush eyes with water, seek medical attention
- 4.4. Skin contact: Remove contaminated clothing and wash affected area with soap and water.

**STANOSTAT CONDUCTIVE INK****5. FIRE-FIGHTING MEASURES**

- 5.1. Suitable extinguishing media: Any
- 5.2. Unsuitable extinguishing media: None
- 5.3. Exposure hazards: None known
- 5.4. Protective equipment for fire-fighters: Use self-contained breathing apparatus

**6. ACCIDENTAL RELEASE MEASURES**

- 6.1. Personal precautions: Use proper personal protective equipment as indicated in section 8.
- 6.2. Environmental precautions: In accordance with Federal, State and Local regulations.
- 6.3. Neutralising chemicals: Not required
- 6.4. Method of clean-up: Soak up with suitable absorbent. Place in sealed containers for disposal

**7. HANDLING AND STORAGE**

- 7.1. Precautions during handling: Wear gloves and goggles. Use only in a well ventilated area. Avoid contact with eyes, skin and clothing.
- 7.2. Storage: Store in a well-ventilated, dry area
- 7.3. Suitable packaging: Plastic or glass containers

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

- 8.1. Protective measures: Wear gloves, goggles and overalls. Use in a well ventilated area or use suitable local exhaust ventilation.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

- 9.1. Appearance: Blue-grey liquid
- 9.2. Odour: Slight sweet pungent odour.
- 9.3. Solubility in water: Infinitely dilutable
- 9.4. pH: Approximately 5 to 8
- 9.5. Flammability: Non-flammable. Flashpoint > 65°C.
- 9.6. Melting point: Not applicable
- 9.7. Boiling point: No information
- 9.8. Vapour pressure: No information

**STANOSTAT CONDUCTIVE INK****10. STABILITY AND REACTIVITY**

- 10.1. Conditions to avoid: Avoid exposure to heat.
- 10.2. Materials to avoid: Substances which may lead to the formation of volatile hydrides or halides of organic tin compounds
- 10.3. Hazardous decomposition products: May produce flammable, toxic or irritating fumes or gases if heated.

**11. TOXICOLOGICAL INFORMATION**

- 11.1. Inhalation: Antimony oxide is a possible carcinogen. Chronic exposure to tin oxide dust may induce Stannosis (a form of pneumoconiosis). Prolonged exposure to the vapour may cause drowsiness and dizziness and may irritate the digestive tract.
- Occupational Exposure Limits for dried material:
- |                 |  |
|-----------------|--|
| Antimony oxide: | 0.5mg m <sup>-3</sup> (as Sb) 8 hour time weighted average |
| Tin oxide:      | 2mg m <sup>-3</sup> (as Sn) 8 hour time weighted average   |
|                 | 4mg m <sup>-3</sup> (as Sn) 10 minute short-term limit     |
- 11.2. Ingestion: May be irritating to the digestive tract
- |                 |   |
|-----------------|---|
| Antimony oxide: | LD <sub>50</sub> >34.6 gms/kg body weight |
| Tin (IV) oxide: | LD <sub>50</sub> > 2.0 gms/kg body weight |
- 11.3. Skin contact: May cause irritation
- 11.4. Eye contact: May cause irritation

**12. ECOLOGICAL INFORMATION**

- 12.1. Environmental effect: The mixed metal oxide of tin and antimony is practically insoluble in water, and is stable and inert under normal environmental conditions.

**13. DISPOSAL CONSIDERATIONS**

- 13.1. Disposal of product: Approved waste disposal site (Refer to Federal, State and Local regulations)
- 13.2. Disposal of packaging: Landfill, incineration or recycling

**14. TRANSPORT INFORMATION**

- 14.1. Special precautions: None

**STANOSTAT CONDUCTIVE INK**

**15. REGULATORY INFORMATION**

- 15.1. Risk Phrases: R40 - Limited evidence of a carcinogenic effect  
R36 - Irritating to the eyes  
R66 - Repeated exposure may cause skin dryness and cracking  
R67 - Vapours may cause drowsiness and dizziness
- 15.2. Safety Phrases: S36 - Wear suitable protective clothing
- 15.3. Classification Symbol: Xn - HARMFUL

**16. OTHER INFORMATION**

- 16.1. If this product is dried the user should be aware of the hazards from inhalation, as outlined in Section 11 of this Material Safety Data Sheet. Appropriate dust control measures should be adopted