

Material Safety Data Sheet

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1 Identification of substance:

- Product details:
 - Trade name: **X-Ray Flux ST 100**
 - Manufacturer/Supplier:
XRF Chemicals Pty Ltd
88 Guthrie Street
Osborne Park, Perth
West Australia 6017
Emergency Phone: (618) 9244-9600
Web Site: www.xrfscientific.com

2 Composition/Data on components:

Chemical characterization:
Description: (CAS#)
Sodium tetraborate (CAS# 1330-43-4), 100%
Molecular Weight: 201.22
Chemical Formula: Na₂B₄O₇

3 Hazards identification

- Hazard description:
 - Xn Harmful
 - Information pertaining to particular dangers for man and environment
R 36/37/38 Irritating to eyes, respiratory system and skin.

4 First aid measures

- After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
- After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
- After eye contact
Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing:
Seek immediate medical advice.
The following symptoms may occur:
Gastric or intestinal disorders, Nausea, Cramp.

5 Fire fighting measures

- Suitable extinguishing agents
Product is not flammable. Use fire-fighting measures that suit the surrounding fire.
Protective equipment: Wear self-contained respirator and wear fully protective impervious suit.

6 Accidental release measures

- Person-related safety precautions:
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- Measures for environmental protection:
Do not allow material to be released to the environment without proper governmental permits.
- Measures for cleaning/collecting:
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Additional information:
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- Handling
 - Information for safe handling:
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
- Storage
 - Requirements to be met by storerooms and receptacles:
No special requirements.
 - Information about storage in one common storage facility:
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection

- Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Components with limit values that require monitoring at the workplace:
Not required.
- Additional information: No data
- Personal protective equipment
- General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- Breathing equipment:
Use suitable respirator when high concentrations are present.
- Protection of hands: Impervious gloves
- Eye protection: Safety glasses
- Body protection: Protective work clothing.

- **9 Physical and chemical properties:**
 - Form: Powder or fine granules
 - Colour: White
 - Odour: Odourless
 - Melting point/Melting range: 741°C
 - Boiling point/Boiling range: Not determined
 - Sublimation temperature / start: Not determined
 - Flash point: Not applicable
 - Flammability (solid, gaseous)
 - Contact with combustible material may cause fire.
 - Ignition temperature: Not determined
 - Decomposition temperature: Not determined
 - Explosion limits:
 - Lower: Not determined
 - Upper: Not determined
 - Vapour pressure: Not determined
 - Density: Approximately 1.25
- **10 Stability and reactivity**
 - Thermal decomposition / conditions to be avoided:
Decomposition will not occur if used and stored according to specifications.
 - Materials to be avoided:
Acids
 - Dangerous reactions: No dangerous reactions known.
Dangerous products of decomposition: Metal oxide fume
- **11 Toxicological information**
 - Primary irritant effect:
 - On the skin: Irritant to skin and mucous membranes.
 - On the eye: Irritating effect.
 - Sensitisation: No sensitising effects known.
 - Subacute to chronic toxicity:
Boron affects the central nervous system. Boron poisoning causes depression of the circulation, persistent vomiting and diarrhoea, followed by profound shock and coma. The temperature may become subnormal and a scarlatina form rash may cover the entire body.

Additional toxicological information:
Possible risk of impaired fertility.
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
- **12 Ecological information:**

General notes:
Do not allow material to be released to the environment without proper governmental permits.
- **13 Disposal considerations**
 - Product: X-ray Flux ST 100
 - Recommendation
Consult state, local or national regulations for proper disposal.
 - Uncleaned packagings:
Recommendation:
Disposal must be made according to official regulations.
- **14 Transport information**

Not a hazardous material for transportation.

 - DOT regulations: None
 - Land transport ADR/RID (cross-border) None
 - Maritime transport IMDG: None
 - Air transport ICAO-TI and IATA-DGR: None

Transport/Additional information:
Not dangerous according to the above specifications.
- **15 Regulations**
 - Product related hazard information:
 - Hazard symbols:
Xn Harmful
 - Risk phrases:
36/37/38 Irritating to eyes, respiratory system and skin.
Safety phrases:
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 - 36/37 Wear suitable protective clothing and gloves.
In case of insufficient ventilation, wear suitable respiratory equipment.
 - 45 In case of accident or if you feel unwell, seek medical advice immediately.
 - National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory.
Information about limitation of use:
For use only by technically qualified individuals.
- **16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

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