

MATERIAL SAFETY DATA SHEET

Date: 14 January 2015 (First Edition)

1. Product Identification

Product: Steel Bar

Identified Use: Dowel bars (BS 13877 part 3), tie bars, reinforcement bar (BS 4449), starter bars, lifting hooks Merchant bar BS EN 10025 S275/ S355 etc.

Supplier Details: Tunley Rod & Bar (Decoilers) Ltd, Unit 22 Cobbett Rd, Zone 1 Burntwood Business Park, Burntwood, Staffordshire, UK, WS7 3GL

Emergency Contact: +44 (0)1543 274888 glenn@tunleyrod.co.uk

2. Hazards Identification

Classification Steel bar (BS EN 10025 S275JR, BS4449) sold in a solid state is not classified as hazardous. However, further processing of the steel including welding, sawing, grinding, brazing, flame cutting, grinding, shot blasting or machining etc. can result in fumes, dust, swarf or steel shards being produced which may cause a hazard.

It is advised that full PPE should be worn at all times when handling steel products .i.e. gloves for protection against cuts and lacerations caused by burrs, sharp edges etc. toe cap boots and safety helmet to guard against impact injuries

The following information may be applicable on further processing.

Suitable eye protection should always be used when grinding, welding, cutting or similar processing of steel bar or when removing bundling wire or strapping.

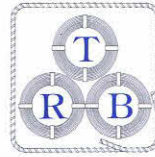
When subjected to elevated temperatures, e.g. during welding or flame cutting, fumes are produced containing mainly oxides of iron and the added residual elements. Dusts may be produced as a result of activities such as sawing and grinding. The principal mode of entry into the body is by inhalation and the potential effects on health which may result in metal fume fever, a short lasting condition with symptoms similar to influenza. However, if workplace exposure is kept below the Workplace Exposure Limit for iron oxide fumes all the residual elements will be below their respective WEL's

Fig 1.

| Current Workplace Exposure Limits: Substance | CAS Number | Workplace Exposure Limit | | | | Comment |
|--|------------|--|--------------------|--|--------------------|---------|
| | | Long-term exposure limit (8-hour TWA reference period) | | Short-term exposure limit (15 minute reference period) | | |
| | | Ppm | mg.m ⁻³ | Ppm | mg.m ⁻³ | |
| Iron oxide, fume (as Fe) | 1309-37-1 | - | 5 | - | 10 | |

Information supplied by Caparo Merchant Bar plc (Steel supplier)





3. Composition

Fig 2.

| Main Substances | Fe | C | Si | Mn | P | S |
|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|
| CAS No | 7439-89-6 | 7440-44-0 | 7440-21-3 | 7439-96-5 | 7723-14-0 | 7704-34-9 |
| EINICS | 231-096-4 | 231-153-3 | 231-130-8 | 231-105-1 | 231-768-7 | 231-722-6 |
| % | 97 | 0.06 | 0.5 | 1.6 | 0.05 | 0.05 |

| Alloying Substances | Nb | V | Al | Ti | N | B |
|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| CAS No | 7440-03-1 | 7440-62-2 | 7429-90-5 | 7440-32-6 | 7727-37-9 | 7440-42-8 |
| EINICS | 231-113-5 | 231-171-1 | 231-072-3 | 231-142-3 | 231-783-9 | 231-151-2 |
| % | 0.1 | 0.05 | 0.05 | 0.28 | 0.01 | 0.005 |

| Trace Substances | Ni | Cr | Sn | Cu | Mo | O |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| CAS No | 7440-02-0 | 7440-47-3 | 7440-31-5 | 7440-50-8 | 7439-98-7 | 7782-44-7 |
| EINICS | 231-111-4 | 231-157-5 | 231-141-8 | 231-159-6 | 231-107-2 | 231-956-9 |
| % | 0.3 max | 0.3 max | .025 max | 0.3 max | .06 max | .03 max |

The constituents and concentrations of these elements will vary according to customer requirements. For more details reference should be made to British or other national/international standards or customer specification.

4. First Aid Measures

- Eye Contact:** Flush eyes immediately with plenty of water for 15 minutes. Consult a physician if irritation persists.
- Skin Contact:** Wash skin with soap and plenty of water. Should irritation or allergic reaction occur medical attention is advised. Any abrasions or cuts should be cleaned thoroughly and dressed to keep out contaminants. Large cuts and lacerations stem blood flow and seek medical advice immediately.
- Ingestion** In the unlikely event of this occurring seek medical advice immediately.
- Inhalation** If over exposed to fumes or dust remove person to fresh air. Should breathing have stopped CPR should be administered and the emergency services called.

5. Fire Fighting Measures

- Extinguishing Media** Non Flammable product as a solid product. Do not use water on a molten metal.
- Special Hazards** Avoid the build-up of fine dust and fumes in confined spaces when additional processes are involved.
- Advice for Fire Fighters** N/A

