

**August 2016**

# ZINOCO<sup>®</sup> COATED RAIL

## Safety Data Sheet

### 1. Identification of the Substance and company

#### 1.1 Product identifier

Description:	Rails with an anticorrosive coating protection (Zinoco <sup>®</sup> ).
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#### 1.2 Description and use

Used in typical railway corrosive environments.

#### 1.3 Details of the supplier

Company:	British Steel Brigg Road, Scunthorpe North Lincolnshire, DN16 1BP
Telephone:	+44 (0) 1724 404040
Normal Hours:	Commercial / Technical support
Email:	<a href="mailto:reach@longssteel.com">reach@longssteel.com</a>

#### 1.4 Emergency contact

Emergency:	Contact security department
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### 2. Hazards Identification

#### 2.1 Classification of the substance

Zinoco<sup>®</sup> coated rail is defined as an article under REACH and does not meet the requirements for classification as dangerous according to the Classification, Labelling and Packaging of substances and mixtures (CLP) regulations (EC 1272/2008).

When Zinoco<sup>®</sup> is heated to high temperatures, e.g. during welding or flame cutting, it may emit irritant fumes, which can cause metal fume fever. Repeated contact with protective coatings on the rail may cause skin problems.

#### 2.2

No label required, no signal word required.

### 3. Composition / information on ingredients

The rails manufactured by British Steel are steels that contain up to 3.0% total of alloying elements, plus carbon.

**Table showing typical composition of Zinoco<sup>®</sup> coated rail**

Product area	Substance	EINECS No.	CAS No.	Range (%) by weight	Classification (CLP Regs)
Steel substrate	Iron	231-096-4	7439-89-6	Balance	Not classified
	Carbon	231-153-3	7440-44-0	0.001 - 1.00	Not classified
	Manganese	231-105-1	7439-96-5	0.0 - 2.5	Not classified
	Chromium	231-157-3	7440-47-3	0.0 - 0.70	Not classified
Zinc based coating	Zinc	231-175-3	7440-66-6	< 2.0	Not classified

## 4. First aid measures

### 4.1 Description of first aid measures

- Skin contact:** Cuts (lacerations) to the skin from sharp steel edges, treat as a normal cut and if required seek medical attention.
- Eye contact:** If particles enter the eye then wash the eye with running water for at least ten minutes. Seek medical advice if irritation persists.
- Inhalation:** If hot work such as welding / burning causes exposure to significant concentrations of fume, remove to fresh air. Seek medical attention if symptoms such as coughing persist.
- Ingestion:** None required.

### 4.2 Most important symptoms and effects

The most important symptoms and effects for eye exposure are soreness and mechanical irritation.

### 4.3 Indication of any immediate medical attention or treatment

Immediate medical attention is required if lacerations are deep.

## 5. Firefighting measures

Zinc-coated steel is non-flammable and has a high melting point, 1450-1520°C (steel), 419-450°C (zinc) at 1013 hPa.

## 6. Accidental release measures

Zinc-coated steel is a solid form and an accidental spill could not be expected.

## 7. Handling and Storage

### 7.1 Handling

Care should be taken when handling, as there may be sharp edges present. Where required the use of hand wearing (protective) gloves and overalls should be used to prevent cuts and abrasions. Care should be taken when lifting heavy loads and where necessary use appropriate lifting equipment to do so.

### 7.2 Storage

Store in the appropriate facility to prevent damage, use suitable racks. Lifting should always be carried out in a way that prevents injury to the operators and damage to the lifting equipment.

## 8. Exposure controls and personal protection

### 8.1 Control parameters (Occupational Exposure Limits (OELs))

Please note these exposure limits are not directly associated with the product but with possible exposures that may occur when performing certain activities such as welding or cutting.

Current OELs (GESTIS International Limit Values Institut fuer Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (IFA))

Country in EU with OEL for the relevant substance	Substance			
	Iron oxide (Fe <sub>2</sub> O <sub>3</sub> & FeO) as Iron		Zinc oxide (ZnO) as zinc fume/resp dust	
	8 hr TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )	8 hr TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Austria	5.0 (resp)	10.0 (resp)	5.0 (resp)	---
Belgium	5.0	---	5.0	10.0
Denmark	3.5	7.0	4.0	8.0
France	---	---	5.0	---
Germany (AGS)	---	---	---	---
Germany (DFG)	---	---	1.0 (resp)	1.0 (resp)
Hungary	6.0 (resp)	---	---	---
Poland	5.0	10.0	---	---
Spain	5.0	---	---	---
Sweden	3.5	---	---	---
United Kingdom	5.0	---	---	---

TWA - Time Weighted Average measured over an 8 hour period  
 STEL - Short Term Exposure Limit Value – 15 minute duration  
 Resp - Respirable fraction of dust

## 8.2 Control Measures

Wear suitable gloves, overalls and eye/face protection when handling the pre-finished steel to prevent cuts and abrasions.

If hot work activities such as welding or burning or mechanical abrasion are to take place then local exhaust ventilation (LEV) should be used to remove any fume produced. During the use of LEV systems the manufacturers instructions and guidance should be followed at all times so that there is sufficient capture velocity and the air cleaning system is in good working order. If a large amount of fume is generated then in conjunction with the LEV, use of suitable and approved respiratory protection should be worn if exposure is likely to be above the OEL. Ori-nasal respirators fitted with either a P2 or P3 filter (EN149: FFP2S / FFP3S) may be used when fume levels are high depending on concentration. Manufacturers directions for use must be followed and where applicable an RPE face fit test should be successfully completed before use.

## 9. Physical and chemical properties

Property	Value used
<b>Physical State at 20°C/ 1013 hPa</b>	Solid
<b>Form</b>	Solid, metallic grey in colour with a coarse finish
<b>Melting point</b>	1450-1520°C at 1013 hPa (steel), 419-450°C (zinc)
<b>Boiling point</b>	Not applicable
<b>Relative density</b>	7.85 kg/dm <sup>3</sup> at 20°C
<b>Vapour pressure</b>	Not applicable, steels due to high melting point >1000°C
<b>Surface tension</b>	Not applicable, steels are an inorganic solid with very low aqueous solubility
<b>Flash point</b>	Not applicable, steels are an inorganic solid with a high melting point >1000°C
<b>Flammability</b>	Non flammable
<b>Explosive properties</b>	Non explosive
<b>Oxidising properties</b>	No
<b>Viscosity</b>	Solid

## 10. Stability and reactivity

The product is stable under normal conditions. The zinc coating will give rise to fumes containing zinc oxides when heated to high temperatures greater than 419°C.

## 11. Toxicological information

Under the general applications of this product, health effects should not occur due to the low risk of exposure to minimal hazard material. If the following activities are carried out, mechanical working, such as dry grinding or machining or hot work such as welding and burning, dust / fume will be produced which may be irritant at high concentrations. The principal route of entry into the body is via inhalation as fume/dust.

### Acute toxicity

Excessive fume/dust may cause irritation and can be potentially harmful if inhaled into the body in large amounts over long time periods. This is not expected under general use of the product.

### Skin corrosion / irritation

The potential fumes/dust arising is not known to be an irritant. However there have been reports of irritation when exposed to dust from white rusting thought to be due to blocking of skin pores with zinc oxide dust.

### Eye damage / irritation

The potential fumes/dust arising is not known to be an irritant.

### Respiratory / Skin sensitisation

The potential fumes/dust arising is not known to cause sensitisation.

### Germ cell mutagenicity

No effect.

### Carcinogenicity

No effect.

### Reproductive toxicity

No effect.

### Repeated dose toxicity – Inhalation

Mechanical working, such as dry grinding or machining, will produce dust of the same composition as the coating and base metal. If the product is heated to high temperatures, e.g. during welding or flame cutting, it produces fumes containing oxides of zinc, manganese and iron.

The potential effects on health from exposure to fumes generated during hot work include metal fume fever, a short-lasting, self-limiting condition with symptoms similar to influenza. The principal mode of entry into the body is by inhalation. If airborne concentrations are excessive (see section 8.1) over long periods of time they may affect the worker's long-term health.

Exposure to iron oxide fume, in excessive concentrations and over long periods of time, may cause a benign condition called siderosis. Repeated inhalation could lead to cumulative effects. This condition is not expected under general use of the product.

## 12. Ecological information

There are no known harmful effects from the product to the environment. Under general application exposure to the environment should not occur.

### 12.1 Toxicity

No effect.

### 12.2 Persistence and Degradability

No effect.

### 12.3 Bioaccumulative potential

No effect.

### 12.4 Mobility in soil

No effect.

### 12.5 Results of PBT and vPvB assessment

Zinc-coated rail is not PBT or vPvB.

## 13. Disposal considerations

Steel products are 100% recyclable and should be recycled at "end of life" in all situations.

## 14. Transport information

Zinc-coated rail is not classified as dangerous under CLP for transport so there is no requirement for transport information. All subheadings in this section are not applicable for this product.

## 15. Regulatory information

### 15.1 Other Regulations / Legislation

Zinc-coated rail specifications are covered by numerous ISO standards. All rails covered by this safety data sheet comply with the packaging and packaging waste EC Directive 94/62/EEC on heavy metal content. All steels covered by this data sheet comply with the Restriction of Hazardous Substances directive 2002/95/EC and the End of Life Vehicle directive 2000/53/EC. The iron manufactured and used to produce this steel product has been registered under REACH along with any other component where a registration was required.

### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out as zinc-coated rail is defined as an article under REACH and does not require an assessment, plus it is not classified as dangerous under the CLP Regulations (EC)1272/2008.

## 16. Other Information

### Revision

This safety data sheet (SDS) has been produced / revised in line with Annex II of the REACH Regulations (2006) as guidance only, as articles do not require a SDS.

*This revision is the second under the new registration (AUG 2016).*

*July 2016 – changes, registered TradeMark.*

### Hazard and Precautionary Statements according to CLP Regulations (EC)1272/2008):

No Hazard statements.

### Disclaimer

Although information in this M.S.D.S. was obtained from sources, which we believe to be reliable, it cannot be guaranteed. In addition, this information may be used in a manner beyond our knowledge or control. The information is, therefore, provided for advice purposes only, without any representation or warranty expressed or implied. Some track side operations will produce fumes and gases from grinding and disc cutting and these cannot be simply classified. The composition and quality of both is dependant upon the grinding and cutting discs being used, the process and the procedure used, the volume of work area, the quantity and amount of ventilation, the presence of contaminates in the atmosphere from other track side equipment.

For further information on the approved workplace exposure limits visit [www.hse.gov.uk](http://www.hse.gov.uk) reference EH40. In countries other than the UK, there may be different exposure limits, please check with your National Authorities.