1. Identification:

Order Code:	KEN-891_3010K_3020K_3030K
Commercial Name:	FASTROD
Other Names:	
Intended Use:	For professional use only : Rutile heavy coated arc welding electrodes, suitable for producing quality welds on mild steel tube, pipes, plate and strip fabrications and sheet metal work.
Company:	Solent, Osbourne Works, Leicester, England, LE18 1AT Tel: 0116 288 8000 Fax: 0116 288 8222 Emergency Telephone Number: 0116 257 2445

2. Chemical composition:

This product is not considered to be hazardous but contains hazardous components

Substance name	**Min.**	**Max.**
Mn	1.9069	2.3307
Si	0.0029	0.0035
C	0.0659	0.0805
S	0.0004	0.0005
P	0.0012	0.0015
TiO2	12.9853	15.8709
ZrO2	0.1206	0.1474
SiO2	2.8429	3.4746
Al2O3	1.4238	1.7403
Fe2O3	0.6318	0.7722
Cr2O3	0.0390	0.0476
V2O5	0.0520	0.0635
Nb2O5	0.0520	0.0635
K2O	0.2737	0.3346
Na2O	0.0558	0.0682
MgO	0.0123	0.0150
CaO	0.0340	0.0416
F	0.0029	0.0035
CaCO3	1.1442	1.3984
MgCO3	0.0298	0.0364
Fe	64.8270	79.2330
Mn	0.2700	0.3300

3. Hazards Identification:

By delivery:	Not hazardous
Risk by welding use:	
General:	Electric shock
Inhalation:	Inhalation of welding fumes may cause respiratory irritation. Cough.
Skin contact:	UV, IR radiations, Heat. May produce skin irritation. Slags can cause burns.
Eye contact:	UV, IR radiations. Heat. May cause eye irritation. Slags can cause burns.

4. First aid measures:

First aid	
- Inhalation:	Assure fresh air breathing.
- Skin contact:	Stop exposure.
- Eye contact:	Minimize exposure to light.
- Ingestion:	Ingestion unlikely. Rinse mouth.
- Electric shock:	Electrical circuits must be shut off as soon as possible. Prepare to administer resuscitation in case of cardiac or respiratory failure. In case of respiratory arrest, administer artificial respiration.
General information:	In all case: Obtain medical attention. If possible show this sheet.

5. Fire Precautions:

Flammable class:	The product is not flammable.
Prevention:	Welding hot slag or sparks may cause fire. Keep away from combustible material.
Surrounding fires:	Use water spray or fog for cooling exposed containers.
Protection against fire:	Wear proper protective equipment.

6. Spillage:

Personal precautions:	Equip clean-up crew with proper protection.
After spillage and/or leakage:	On land, sweep or shovel into suitable containers.

7. Handling & Storage:

Storage:	Store in dry protected location to prevent any moisture contact. Keep container closed when not in use.
Handling:	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

8. Personal Protection:

Respiratory protection:	Do not breathe gas/fumes/vapour. In case of insufficient ventilation, wear suitable respiratory equipment.
Hand protection:	Welding gloves.
Skin protection:	Skin protection appropriate to the conditions of use should be provided.
Eye protection:	Use a protection mask equipped with suitable filter glasses. Interdiction to wear contact lenses.
Ingestion:	When using, do not eat, drink or smoke.
Industrial hygiene:	Provide local exhaust or general room ventilation to minimize fumes concentrations.

9. Physical & Chemical properties:

Physical state:	Solid.
Colour:	Grey.
Odour:	Odourless.
Melting point (^{o}C):	ca 1500

10. Stability & reactivity:

Stability:		Stable under normal conditions. (<300^{o}C)
Hazardous decomposition products	:	Formation of dangerous fumes during use. According to process conditions, hazardous Decomposition products may be generated. such as :

Al2O3	CAS 001344-28-1	EC 215-691-6	TLV(mg/m3):	10
CO	CAS 000630-08-0	EC 211-128-3	TLV(mg/m3)	29
CO2	CAS 000124-38-9	EC 204-696-9	TLV(mg/m3)	-
CaO	CAS 001305-78-8	EC 215-138-9	TLV(mg/m3)	2(Ca)
Cr	CAS 007440-47-3	EC 231-157-5	TLV(mg/m3)	0.5
Fe	CAS 007439-89-6	EC 231-096-4	TLV(mg/m3)	1(insoluble)
MgO	CAS 001309-48-4	EC 215-171-9	TLV(mg/m3)	10
Mn	CAS 007439-96-5	EC 231-105-1	TLV(mg/m3)	0.2
Mo	CAS 007439-98-7	EC 231-107-2	TLV(mg/m3)	10
Si	CAS 007440-21-3	EC 231-130-8	TLV(mg/m3)	10 (SiO2)
SiO2	CAS 014808-60-7	EC 238-878-4	TLV(mg/m3)	10
TiO2	CAS 013463-67-7	EC 236-675-5	TLV(mg/m3)	10

Cr (lll)	CAS 012018-00-7	------	TLV(mg/m3)	0.5
Cr (Vl)	CAS 001308-39-9	------	TLV(mg/m3)	0.05
K2O	CAS 012136-45-7	------	TLV(mg/m3)	-
Na2O	CAS 001313-59-3	------	TLV(mg/m3)	2(naOH)

Theshold Limit Values (TLV_TWA) given according to ACGIH.
The TLV limit of the above elements is function of the national reglementation.

Hazardous properties: Welding fumes are classified carcinogen by the ICRC (International Center of Research on Cancer) : Group : 2B. Cancer suspected agent.

Materials to avoid: Avoid contact with: Acids. Oxidizing agent.

Other information: In case of work on parts covered by coatings such as : Lubricant, Solvent, Paint, Metallic compounds, Grease, etc… The thermal or photochemical decomposition products of these elements cumulate with the dusts and fumes emitted by the melting of the welding product. The solution to adopt must be, in any case, preceeded by a spot study. Refer to the document "Health and Safety in Welding" published by the International Institute of Welding (IIS/IIW).

11. Toxicological information:

Toxicity information: This material or its emissions may induce an allergic or sensitization reaction and thereby aggravate existing systemic disease.

Acute toxicity: Overexposure to welding fumes may cause : Fever, Nausea. Giddiness. Eye irritation. Irritation to the respiratory tract and to other mucous membranes.

Chronic toxicity: Overexposure to welding fumes may cause : Pulmonary/bronchial disease and/or cause breathing difficalty.
Overexposure to : Manganese(Mn). This material or its emissions may attack the nervous systems and/or aggravate pre-existing disorders.
Quartz inhalation : May cause lung damage. May cause cancer.

12. Ecological information:

Ecological effects information: This product contains no hazardous components for the environment. Avoid release to the environment.

13. Safe Disposal:

Disposal: Comply with local regulations for disposal.
Apply the same procedure for slags remaining From welding.

Industrial waste number: 120113 Welding wastes
120101 Ferrous metallic scraps

14. Transport information:

General information: Not regulated.

15. Regulatory information:

Symbol(s): None.
R Phrase(s): None.
S Phrase(s): None.

16. OTHER INFORMATION:

Warning:	Fumes and gases emitted during welding may by dangerous. Good ventilation of the workplace required. Electric rays may burn eyes and skin. Electric shocks can kill. Wear proper protective equipment.
Training edvice:	Ensure of an accident or an emergency.
Recommended uses and restrictions:	Contact your supplier in case of doubt.
Product information:	www.safety-welding.com
Further information:	Revision – See:*

The present Safety Date sheet has been inspired by the European Directives currently in force.

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