

**CDS CONSULTANTS  
BWLCH TOCYN FARMHOUSE  
BWLCH TOCYN ABERSOCH  
PWLLHELI LL53 7BN  
TEL: 01758 712245  
FAX: 01758 712014**

## **STEEL ABRASIVE**

### **SAFETY DATA SHEETS FOR SUBSTANCES AND PREPARATIONS DANGEROUS TO SUPPLY**

Information prepared in consideration of Iron and Steel abrasives in the form of Shot and Grit, under the guidance of :-

Data Sheets Directive (91/155/EEC) amended (93/112/EEC) Chemicals (Hazard information and packaging for supply) Regulations 1994. CHIP2  
Health and Safety At Work Act 1974. HSWA  
Article 27 Dangerous Substances Directive (67/548/EEC) 7<sup>th</sup> amendment (92/32/EEC)  
Article 10 Dangerous Preparations Directive (88/379/EEC)

#### **Composition**

Material is predominantly a compound of iron (Fe) Carbon (C) Silicon (Si) Manganese (Mn)

#### **Hazard Identification**

Non-toxic  
As supplied

Non-corrosive  
As supplied

Non-irritant  
Provided standard safety precautions are taken during handling/use i.e. Gloves and eye protection in the form of safety spectacles or goggles and respiratory dust masks.

#### **First Aid Measures**

In the case of eye contact irrigate with water and seek medical assistance/advice.  
In the case of ingestion seek medical advice.

#### **Fire Fighting measures**

**Material is non-flammable as supplied. However, spontaneous combustion may occur if stored in bulk containers in unsuitable temperature and humid environment.**

**No special measures are required.**

#### **Accidental Release measures**

**Should spillage occur material has a destabilising effect on floors. Simple mechanical methods i.e. (brooms and shovels) are adequate for removal.**

#### **Handling and Storage**

**Material is supplied in pack weights varying from 25kgs to 2000kgs, proper training in manual handling techniques and mechanical handling systems is advised. Where possible, material should be stored at ground level and avoid stacking. When stored in racks or above ground level care should be taken to determine the suitability of such arrangements.**

#### **Transport**

**Ensure secure pack.**

#### **Storage**

**Keep dry in stable environment.**

#### **Usage**

**Avoid spillage.**

#### **Disposal**

**Material is readily recyclable as steel scrap in its supplied condition. Should the material become contaminated in any way during use it is the user's duty to consider suitable means of disposal.**

#### **Special Note**

***Packaging consists of wooden pallet, polythene/polypropylene and cardboard. Appropriate measures of recycling/disposal should be considered. Adequate resources for fire fighting should be available, particularly in the case of fires involving plastics.***

#### **Exposure Controls**

Abrasive applications may result in the formulation of dust\*, predominantly iron which could oxidise to iron oxide under prevailing conditions. The use of P.P.E. is recommended in the form of gloves, safety spectacles or goggles and respiratory dust masks. \*Definition of dusts: -

Dust as opposed to specific chemical dusts as defined in EHS publication EH49/91 as follows:-

"Total inhalable dust is the fraction of airborne material which enters the nose and mouth during breathing and is, therefore, available for deposition in the respiratory tract". This dust has an *Occupational exposure (OES) of 10mg/m<sup>3</sup> 8hr Time Weighted Average (TWA)*.

Respirable dust is intended to simulate the fraction which penetrates to the gas exchange region of the lungs. This dust has an OES of 5mg/m<sup>3</sup> 8hr TWA.

### Occupational Exposure Standards (OSE)

As defined in EH40/91 :- *"The concentration of an airborne substance, averages over a reference period, at which, according to current knowledge, there is no evidence that is likely to be injuries to employees if they are exposed to inhalation, day after day, to the concentration, and which is specified in an approved list by the HSC.*

NB. These notes and observations are in no way intended to supersede any Factory Act or Regulation or best practise covering any aspect of abrasive usage.

### Physical and chemical properties

Boiling Point                    3000°C

Melting Point                    1550°C steel

Flammability                    Non -Inflammable

Explosive Properties            Non-Explosive

Vapour Pressure                Negligible

Bulk Density                    4 tonnes/cubic meter  
250 lb/cubic foot

Solubility                        Negligible, will corrode in the presence of some salts.

### Stability and Reactivity

Material is predominantly iron and will combine with oxygen to form iron oxide in conditions of unstable humidity and temperature.



S170 0.42 - 0.71									10% max			85% min	97% min			
S110 0.3 - 0.5											10% max			80% min	90% min	
S70 0.18 - 0.35													10% max		80% min	90% min
SAE Sieve(No)	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120
BS Sieve (No)	6	7	8	10	12	14	16	18	22	25	30	36	44	52	85	120
BS Aperture (mm)	2.80	2.40	2.00	1.68	1.40	1.20	1.00	0.85	0.71	0.60	0.50	0.42	0.355	0.30	0.18	0.125

### STEEL GRIT PARTICLE SIZE SPECIFICATION

Product Size (mm)      %: min & max cumulative percentage allowed on corresponding screens

G12 1.7 - 2.4				80% min	90% min											
G14 1.4 - 2.0					80% min	90% min										
G16 1.2 - 1.7						75% min	85% min									
G18 1.0 - 1.4							75% min	85% min								
G25 0.7 - 1.2									70% min	80% min						
G40 0.42 - 1.0													70% min	80% min		
G50 0.3 - 0.71														65% min	75% min	
G80 0.18 - 0.42															65% min	75% min
SAE Sieve(No)	7	8	10	12	14	16	18	20	25	30	35	40	45	50	80	120
BS Sieve (No)	6	7	8	10	12	14	16	18	22	25	30	36	44	52	85	120
BS Aperture (mm)	2.80	2.40	2.00	1.68	1.40	1.20	1.00	0.85	0.71	0.60	0.50	0.42	0.355	0.30	0.18	0.125

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