

CDS CONSULTANTS TECHNICAL DATA SHEET

Material Technical Data Sheet

Trade Name: **GARNET - All Grades**

Issue Date: **March 2004**

Page: **1(6)**

1. Chemical Product, Description and Company Identification

Product Name: **GARNET - All Grades**

Product Description: **A naturally occurring mineral blasting abrasive, used for blast cleaning, water jet cutting and metal polishing. It is inert and non-toxic which offers benefits in terms of abrasive consumption and dust generation compared with conventional expendable abrasives, and contains no free silica.**

Company Identification: **CDS Consultants
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2. Composition / Information on Ingredients

<i>Chemical composition:</i>		%
Silica as	SiO₂	<38.20
Iron as	Fe₂O₃	<32.40
Aluminium	Al₂O₃	<21.30
Magnesium as	MgO	< 7.79
Calcium as	CaO	< 1.66
Manganese as	Mn₃O₄	< 0.53
Titanium as	TiO₂	< 0.12
Free Silica		< 1

**Alumino-fero Silicate with general formula
Fe₂Al₂(SiO₄)₃ with geological name of Almandine .**

Material Technical Data Sheet

Trade Name: **GARNET - All Grades**

Issue Date: **March 2004**

Page: **2(6)**

3. Grades Available

<i>Mesh/Grade</i>	<i>size range (mm)</i>	<i>Surface profile achieved on mild steel (BS7079)</i>
120	0.080 - 0.180	less than fine
80	0.180 - 0.355	Fine
30/60	0.200 - 0.600	Medium
20/40	0.355 - 0.850	Medium
12/20	0.700 - 1.400	Coarse
8/12	1.400 - 2.360	Coarse

4. Physical and Chemical Properties

Appearance:

Physical state: **Solid, angular**
Colour: **Pink/reddish brown**
Odour: **None**

Safety relevant data:

Melting point: **1315 °C**
Lower explosion limit: **Not applicable**
Upper explosion limit: **Not applicable**
Specific gravity: **4.1 kg/dm³**
Bulk Density: **2.38 kg/dm³**
Hardness: **7 – 8 Mohs**
Solubility in water: **Not applicable**

5. Abrasive Performance

All grades are capable of achieving a cleanliness standard of Sa3 on mild steel plate with moderate rust/mill scale. It is inert, non-toxic and environmentally friendly. It is stable and does not contaminate the surface of stainless steel and non-ferrous materials during the blast cleaning process. The angular shape gives a fast cutting action. Its crystalline structure exhibits high toughness, resulting in long life span and low particle

Material Technical Data Sheet

Trade Name: **GARNET** - All Grades

Issue Date:

March 2004

Page: **3(6)**

breakdown on impact resulting in lower operating dust levels when compared with blast cleaning using other expendable abrasives. The coverage achieved will be dependent on factors such as pressure at the nozzle, nozzle diameter grit valve setting and the skill of the operator.

6. Industry Standards

CDS Garnet abrasives are manufactured to conform To ISO 11 126-10 and BS7079 (1989). Please note that our size ranges may vary from sizes quoted in the above standards.

7. Packaging

CDS Garnet abrasive is packed in 2 5kg woven PP sacks wrapped on pallets, 1.5 tonnes per pallet. Pallets are non-returnable. Alternative packaging is available on request and includes 1.0 tonne bulk bags.

8. Availability

CDS Garnet abrasives are available from stock at the Immingham depots and from distribution points throughout the UK. Deliveries of 20/24 tonnes can normally be made to most parts of the country within 24 hours.

9. Health & Safety

CDS Garnet abrasive has been approved by the UK. Health and Safety Executive for use as a blasting abrasive. CDS Garnet abrasives, as supplied, do not present any hazard to health. Eyes and throat can become irritated when exposed to too high concentrations.

10. First Aid Measures

Inhalation:

Remove to fresh air.

Skin:

Wash with water and soap.

Eye:

Wash with plenty of water.

Material Technical Data Sheet

Trade Name: **GARNET - All Grades**

Issue Date: **March 2004**

Page: **4(6)**

Ingestion: **If irritation persists, consult physician.
No danger known.**
Advice to physician: **No specific advice.
Treat according to symptoms present.**

11. Fire Fighting Measures

Not applicable.

12. Accidental Release Measures

Personal protection: **Wear recommended personal protective equipment.**

Procedure for cleaning and recollection: **Sweep up with a minimum of dusting. Collection in container e.g. fibreboard drum or carton.**

13. Handling and Storage

Handling: **The pallets supplied are suitable for handling using fork lift trucks, the pallets should not be handled using strops slung from a crane. Avoid breathing dust. Avoid spillage which can cause slippery floors. Use good personal hygiene and housekeeping.**

Storage recommendations: **The pallets should not be stacked more than two high. Keep bags and containers dry and well closed. Store cool.**

Storage class:

14. Exposure controls / Personal protection

Engineering controls: **Use adequate ventilation if dusty conditions prevail when handling the product. For storage and ordinary handling, general ventilation is adequate.**

Exposure guidelines, Dust: **Total dust <10mg/m⁻³ 8 hour TWA
Respirable dust <4 mg/m⁻³ 8 hour TWA**

Material Technical Data Sheet

Trade Name: **GARNET - All Grades**

Issue Date: **March 2004**

Page: **5(6)**

Respiratory protection: **Blasting operators should use a CE marked or HSE approved shotblasting helmet. Ancillary workers should use a P2 dust r respirator.**

Skin protection: **Protective garments.**

Eye protection: **Blasting helmet as above or goggles.**

15. Stability and Reactivity

Not applicable.

16. Toxicological Information

Immediate (acute) effects: **Not applicable.**

Delayed (subchronic and Chronic) effects:

Not applicable.

Other data:

Dust in concentration above the max. recommended concentrations might cause irritation of eyes and throat.

17. Disposal Considerations

Discard as non-hazardous inorganic solid waste. Due consideration will need to be given to spent abrasive which may contain other materials derived from the substrate being cleaned.

18. Transport Information

Land Transport:

<i>ADR</i>	Not regulated
<i>GGVS</i>	Not regulated
<i>RID</i>	Not regulated
<i>GGVE</i>	Not regulated

Identification of the Product:

Danger number **UN nr:**

Material Technical Data Sheet

Trade Name: **GARNET - All Grades**

Issue Date: **March 2004**

Page: **6(6)**

River / Canal-transport:

ADNR **Not regulated**

Sea-transport:

IMDG/GGVSea-code **Not regulated**
EmS MFAG

Air-transport:

ICAO/IATA-DGR **Not regulated**

Other Information: **May be sent by mail.**

19. Regulatory Information

Danger Symbols: **Not applicable**

National Regulations: **Not applicable**

20. Other Information

The information contained herein is to the best of our knowledge accurate, but since the circumstances and conditions in which it may be used are beyond our control, we do not accept liability for any loss or damage, however arising, which result directly or indirectly from the use of such information.