

# Materials Safety Data Sheet

## Finished Fasteners

Avdel products are identified by a ten digit part number on order acknowledgments and dispatch advice notes which indicates the fastener type.

To identify the material used and any surface finishes please refer to the relevant technical data sheet or sales drawing.

Our fasteners fall into the following groups:

### Steel and Stainless Steel Fasteners

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Steel contains small quantities of one or more of the following:

carbon, silicon, manganese, sulphur, phosphorus, aluminium, boron, chromium, molybdenum, nickel, lead and tellurium.

Stainless Steel (with or without surface treatment) contains alloying quantities of one or more of the following:

chromium, nickel, copper, molybdenum and small quantities of one or more of the following: carbon, silicon, manganese, sulphur, phosphorus, selenium and titanium.

### Aluminium Alloy Fasteners

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Aluminium alloy contains alloying quantities of one or more of the following; zinc, copper, magnesium and small quantities of manganese, silicon, iron, chromium and nickel.

Elements other than these may be present as impurities at very low levels.

### Brass Fasteners

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Brass contains alloying quantities of copper and zinc and may contain small quantities of lead.

Elements other than these may be present as impurities at very low levels.

### Coatings

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#### Steel and Stainless Steel

Steel and Stainless Steel fasteners are coated with zinc, zinc-nickel or cadmium, which may be clear, yellow or black chromate passivated. This is indicated by a metallic white/blue, iridescent yellow or black appearance.

#### Aluminium Alloy

Aluminium Alloy fasteners may be plain, anodised, anodised and dyed or Alocrom treated.

#### Brass

Brass fasteners may be plain, tin or tin/lead coated.

#### Special Finishes

If you require further information or technical advice on any finish not detailed on this sheet, please contact our materials laboratory on +44 (0)1707 292082.

#### Lubricants

Fasteners may be coated with a thin, almost undetectable layer of lubricant based on one or more of the following:

natural or synthetic wax, acrylic resin, molybdenum disulphide or PTFE.



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### Chemical Hazards

Normally no physical or chemical hazards arise from Avdel fasteners.

Fasteners of all material types will give rise to the evolution of harmful gases such as hydrogen if in contact with acids.

Steel fasteners coated with zinc or cadmium and aluminium alloy fasteners may also give rise to the generation of harmful gases if in contact with strong alkaline solutions.

### Health Hazards

Avdel fasteners do not present a significant health hazard in their natural state, during normal expected use and storage under ambient conditions.

Users should note that dust can be generated by cutting, machining or grinding and fume can be generated during brazing or welding.

In particular, fasteners coated with zinc or cadmium exposed to temperatures at or above the melting point of these metals will give rise to fume containing their oxides.

Similarly, under high humidity or in the presence of corrosive media, white corrosion products containing zinc or cadmium respectively can occur.

If dust or fume are generated during processing or installation, a suitable assessment of the risk presented should be made by the user as required by the COSHH Regulations. Reference should be made to Health and Safety Executive Guidance Note EH 40 - Occupational Exposure Limits (current edition) and Guidance Note EH 42 - Monitoring Strategies of Toxic Substances.

Current literature lists cadmium as highly toxic and as a suspected human carcinogen. Occupational Exposure Standards listed in EH 40 are reviewed annually, hence none are listed on this sheet. The user should ensure that reference is made to the current issue and should include both eight hour and ten minute time weighted averages.

### Fire Hazards

Avdel fasteners do not in themselves constitute a fire hazard but if they are exposed to fire they can give off fume which may be toxic.



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### Storage & Transportation

No special precautions are required other than to ensure that packaging, storage and transportation are under normal ambient conditions avoiding extremes of temperature and excessive humidity.

### Handling & Installation Precautions

The use of gloves or barrier creams is recommended in order to avoid any risk of skin contamination from fastener coatings during prolonged handling.

General hygiene rules apply ie wash hands thoroughly before eating, drinking or smoking.

### Emergency Action

Ingestion of dust	Seek medical attention. Do not induce vomiting.
Inhalation of dust/fume	May cause irritation to nose or throat. Remove victim to fresh air and seek medical attention.
Eyes	Dust acts as a foreign body. Irrigate with copious amounts of water and seek medical attention.

### References

- Health and Safety Work Act 1974.
- Control of Substances Hazardous to Health - Approved Code of Practice.
- HSE Guidance Note EH 18 - Toxic Substances
- HSE Guidance Note EH 26 - Occupational Skin Diseases
- HSE Guidance Note EH 40 - Occupational Exposure Limits
- HSE Guidance Note EH 42- Monitoring Strategies Toxic Substances
- HSE Guidance Note EH 44 - Dust in the Workplace
- HSE Health and Safety Booklet No 18 - Industrial Dermatitis Precautionary Measures
- Avdel Technical Data sheet for installation tools.

**If you require further information or technical advice, please call our materials laboratory on:**

**+44 (0)1707 292082**

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