

SECTION 3 : 3.1



An environmental solution...

...potential savings on waste disposal

Superwool® Plus a new standard of high temperature insulation wool which has both health and performance advantages for designers, installers and users alike.

We are committed to protecting the environment by minimising the impact of our operations and our products through continuous improvement in environmental performance and control.

- Potential savings on waste disposal
- A reduction in CO₂ emissions
- Not classified as hazardous under EU waste regulations

Health and Safety - the hazard classification of man-made vitreous (silicate) fibres in the European Union (EU)

In 1997 the European Commission added man-made vitreous (silicate) fibres (MMVFs) to the list of dangerous (hazardous) substances under the European Union Directive 67/548/EEC. This Directive classifies substances according to their specific hazard and sets out requirements for hazard communications to users through packaging labelling and material safety data sheets. The classification framework for MMVFs is complicated, but may be summarised for the purposes of this manual as:

- Some MMVFs were classified as category 2 carcinogens (substances which should be regarded as if they are carcinogenic to man).
- Most commercial MMVFs were classified, by default, as category 3 carcinogens (substances which cause concern for man owing to possible carcinogenic effects). However, these MMVFs may be exonerated from category 3 carcinogen classification if they meet certain criteria in the Directive².

For high temperature insulation wools, this regulation classified Refractory Ceramic Fibres (RCFs) as category 2 carcinogens and exonerates the Superwool[®] range of products from any carcinogen and skin irritancy classification.

In 2008 a new regulation - classification, labelling and packaging of substances and mixtures (Regulation (EC) No 1272/2008) came into force with the main aim of bringing EU CLP (Classification, Labelling of Packaging) into line with GHS. (Global Harmonised System).

Under this new regulation:

The previous European **Cat 1** = CLP 1a; **Cat 2** = CLP 1b and **Cat 3** = CLP 2

RCF (refractory ceramic fibre) = CLP 1b

AES (alkaline earth silicate) such as Superwool[®] fibre = Exonerated

Notes Q and R still apply

The consequences of carcinogen hazard classification in the European Union

Classification of RCFs in the European Union as category 2 (CLP 1b) carcinogens triggered a number of downstream regulations both across the European Union and in individual Member States. These require measures to be taken by Member States to restrict the use of and control exposures to RCFs in order to minimise possible adverse impacts to human health and the environment. The classification numbering has changed, but the regulation still remains the same.

The measures include:

- Prohibiting manufacturers and suppliers from placing RCFs on the market for use by the general public (Directive 76/769/EEC).
- Requiring employers using RCFs to seek a substitute which would present a lower risk to the health of workers, or where not technically feasible to contain the RCFs and implement measures to reduce occupational exposure to the lowest technically achievable (Directive 2004/37/EC).
- Handling and disposing of RCF hazardous waste from manufacture and use by a licensed waste contractor and in an appropriately licensed special waste landfill (Directives 91/689/EEC and 1999/31/EC).

In January 2010, the EU declared RCF to be an SVHC (Substance of Very High Concern) and added it to Annex XV of the European REACH regulation. This initiated new controls applying to companies wishing to import articles containing RCF into the EU and also started the process of evaluation which may lead to RCF uses requiring authorisation. Further information on this subject can be found at www.morganthermalceramics.com

These downstream consequences have applied to the marketing and use of RCFs since their classification as category 2 (CLP 1b) carcinogens, and have resulted in increased costs of compliance for manufacturers, suppliers and users of RCF.

They do not apply to the Superwool® range of products³.

Additionally, European Union Member States have the right to implement their own worker protection measures, such as the setting of Occupational Exposure Limits. Many Member States have introduced lower Occupational Exposure Limits for MMVFs since the 1997 classification. Some of the Occupational Exposure Limits set, or proposed, in Europe for RCFs are very low and difficult to achieve.

Why Superwool® products?

For many years the European high temperature insulation wool industry association (ECFIA⁴, www.ecfia.eu) has had a Product Stewardship Programme, which includes:

- Human effects research: such as sponsoring human health surveys and research on the biological effects of fibres.
- Exposure assessment: study of workplace controls and workplace monitoring. (These aspects of product stewardship in Europe are known as the CARE programme for Controlled And Reduced Exposure.)
- Product research: the search for new materials which might release less dust or meet the requirements for exoneration from carcinogenic classification.
- Special studies: research on such subjects as waste, production of communication bulletins on the above efforts, material safety data sheets, safe handling guidelines etc.

The development and marketing of Superwool® **Plus** fibre is a result of Morgan Thermal Ceramics' commitment to this Product Stewardship Programme.

¹ As amended by European Commission Directive 97/69/EC

² See Notas Q and R of Directive 67/548/EEC (replaced by CLP Regulation (EC) No 1272/2008)

³ Superwool meets the criteria for exoneration from carcinogen classification in Nota Q of Directive 67/548/EEC (replaced by CLP Regulation (EC) No 1272/2008)

⁴ Member companies of ECFIA manufacture and supply RCFs and other high temperature insulation wools

Waste disposal - Superwool® products may be disposed of in non-hazardous waste landfill

Key points summary

- Disposal of waste materials in EU Member States is controlled by implementation of a number of Directives.
- Wastes containing more than 0.1 wt% of (RCF) are classified hazardous under Directive 91/689/EC. RCF wastes from manufacture and use are required to be handled and disposed of by a licensed waste contractor in an appropriately licensed hazardous waste landfill. Directive 1999/31/EC enables such wastes to be disposed in a non-hazardous waste landfill provided that leaching tests have shown there is no risk of soil or ground water contamination.
- As responsibility for the implementation for EU waste Directives lies with the individual member states, local regulations are not harmonised and waste disposal restrictions vary widely from country to country.
- In practice, many RCF users have experienced significantly increased costs because local waste disposal sites are not licensed to or prepared to accept hazardous wastes.
- Waste containing Superwool® fibre products may be disposed in a non-hazardous waste landfill.
- Superwool® products that do not contain an organic binder may be considered as waste glass-based fibrous materials (European Waste Code 10 11 03).

In practice, Superwool® users should experience no difficulty or increased costs for disposing of waste fibre.

This is a clear benefit for Superwool® product users compared with RCF users.

Some examples in different countries

1. Superwool® product waste is considered inert waste in Germany and can be disposed of in a landfill designated for non hazardous waste according to the landfill ordinance (DepV) §6 and 7 and under §3 of the waste storage ordinance (AbfAbIV).
2. In the UK, the Environment Agency clearly suggests that Superwool® products are considered as waste glass-based fibrous materials as long as they do not contain any organic binder or are not contaminated by other hazardous material.
3. In France Directive 1999/31/EC I has not yet been implemented. However an “Arrêté” from 30th December 2004 indicates that inert wastes can be stored in an industrial inert waste landfill as long as they meet the leaching testing limits referred to in its appendix 2.

Guidelines for handling and disposing of Superwool® product waste

- Handle the waste with care so that it does not spread. Wetting (dampening only) the waste helps to minimise dust emission.
- Do not allow the waste to accumulate around the workplace.
- In the workplace, dispose of the waste in a suitable closed container or plastic bag as soon as it is produced.
- When full, seal containers or plastic bags before removing for disposal.
- Leaching tests may be required to show that waste will not pollute groundwater or soil. Superwool® product wastes may contain organic materials and/or other contaminants.
- Do not mix Superwool® product waste with hazardous waste.
- The responsibility for waste disposal or treatment remains with the waste producer. In most jurisdictions, records must be maintained and provided by the waste contractor / transporter to the landfill to verify disposal.
- Ensure written confirmation is received from the disposal company verifying that the waste has been disposed of properly.
- Superwool® product waste may have been contaminated by hazardous substances during its normal use. In such cases expert guidance should be sought.